JULY, 1961

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VK2WI: Sundays, 1100 hours EST, simultaneously on 3575 Kc., 7146 Kc., and 145.0 Mc. Intrastate call-backs taken on 7050 Kc..

VK3WI: Sundays, 1030 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.25 Mc. Intrastate hook-ups taken on 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 7146 Kc. and 14.342 Mc. Intrastate hook-ups taken on 7105 Kc.

VK5WI: Sundays, 0900 hours CAT, on 7146 Kc. Intrastate hook-ups taken on 7125 Kc. Frequency checks given when VK-5WI is on the air and also by VK5MD by arrangement.

VK6WI: Sundays at 0930 hours WAST, on 7146 Kc. Intrastate hook-ups taken on 7085 Kc.

VK7WI: Sundays at 1000 hours EST, on 7146 Kc. and 3672 Kc. Intrastate hook-ups taken on 7115 Kc.

AMATEUR RADIO

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EDITORIAL

★

AMATEUR RADIO IS A WAY OF LIFE

Amateur Radio to many of us has become a way of life. Unlike other hobbies, Amateur Radio provides a vital contact with the other man—whether he be your countryman or from some remote part of the world—a contact which opens the gate for an international understanding of the other man's problem in a way which all the newspaper, broadcast programmes, television programmes and other mediums cannot surpass.

As a hobby which can be conducted from your own home it provides in an instant that contact with the outside world which would take hours, days, weeks, months and perhaps years to make by other means. This contact opens the gate to free thinking about "the way the other man lives"; it takes you to his "garden" and he to yours; it gives you an insight into his way of living as compared to yours; and above all, it gives you an oral international communication unique to your hobby.

This way of life must never be left to "drown"; it is a way of life which we, as Amateurs, have as a legacy from those early pioneers who paved the way to make such unique communication possible at the press of a switch. To this end we should be vigilant in every phase of our art in order that our requirements are always available to us and that we give to our hobby what we expect to gain from it.

The Wireless Institute of Australia is proud to represent the Australian Amateur Service in all its problems. What concerns you will be its concern. What it can achieve for you will be yours. But it must have your moral and financial support, and you can encompass these requirements by remaining a member and encouraging others to join.

RECONNAISSANCE

In the summer and spring Amateurs the world over turn to the outdoors for recreation and the healthy pursuits of outdoor activity, some of which is given to maintenance on the station aerial systems which are a hardy task in the autumn and winter seasons.

July is getting well into winter with dark, wet mornings when the rain and dew doesn't dry out until midday and the cold evenings start with the sinking of the sun around fivish. July is the commencement of that three-month winter period when time can be devoted to the shack and all those things which the warmer months could not drive you inside to do.

There would be few Amateurs who could honestly say that he had nothing to do with his hobby other than to walk in, sit down, switch on his rig and have a number of QSOs throughout the year without some thought to "other things he wanted to do in connection with his hobby."

The winter months is the time to do these things so that more time in the open is available when the warm months return. So take stock of that list of "things to do" and get them done during July, August and September. By September spring is here again and the outdoor life calls . . .

FEDERAL EXECUTIVE

THE CONTENTS

KNOW YOUR CAPACITY

E. J. CAWTHRON,* VK5JE

IN a recent issue of a popular radio publication the author of a certain article described how he had experienced considerable trouble with his c.r.o. and had eventually found "leaky" capacitors to be culprits. His comments suggest that there are probably many more obscure faults being experienced by constructors who are blissfully pinning their faith in the capacitors manufactured many years ago.

I have a vivid memory of having received a packet of unused capacitors from a W2 friend just after the war and being curious about their breakdown voltage decided to "megger" them. To say that I was amazed to find the majority of them showing a leakage around the one megohm mark is putting it mildly—I hope the dustman has never tried to use them!

The article on the c.r.o. started my train of thought working again, so recently I decided to go through my junk box and do some more testing. I am certainly glad I did, because over 60% of them have now been discarded. Readings of 0.5 to 5 megohms were quite common and I can only assume that this state of affairs must exist in hundreds of other junk boxes.

For the experienced constructor it is a matter of where the capacitor is placed in the circuit as to what degree of leakage can be tolerated and one which is unsuitable for anode coupling may be quite satisfactory in a low voltage circuit.

LEAKAGE VARIETY

Recently a class of new recruits to our art were required to construct an experimental two-stage amplifier and an opportunity was taken to demonstrate the wisdom of pre-testing all capacitors prior to installation. The circuit was somewhat similar to that shown in Fig. 1, using a 6V6 output tube but it could represent any amplifier or the output stage of your receiver. The set was wired using a new capacitor which read "infinity" and the anode current of the 6V6 was approximately 30 mA. consistent with reasonable quality. The capacitor was removed from point "X" and the "suspected" capacitors inserted with the result that the anode current varied from 30 up to 80 mA. with attendant severe distortion. I'm willing to bet that under normal circumstances the coupling capacitor would be the last item to be suspected and one can imagine the feverish changing of tubes, checking of resistors and allied components in an effort to cure that distortion.

Should we find it inconvenient to insert a milliammeter in the anode circuit, as shown by "A" in Fig. 1, then a check can be made by placing a voltmeter across points "B", taking care the meter is of sufficiently high resistance so as not to greatly disturb the normal working conditions of the circuit. Any increase in anode voltage caused by a faulty capacitor being inserted at "X" will cause the voltage readings to increase. Any capacitor suspected of being faulty should be put aside and tested as soon as possible, after which (if you decide to keep it for future use) suitably inscribe it with a "skull and crossbones" plus "poison" label.

A glance at Fig. 2 will show how the "leaky" capacitor in conjunction with the following grid leak forms a voltage divider from the h.t. plus voltage on the anode of V1 to ground, and under some circumstances will buck out the negative grid voltage. There can even be a positive voltage applied with the disastrous results previously mentioned.

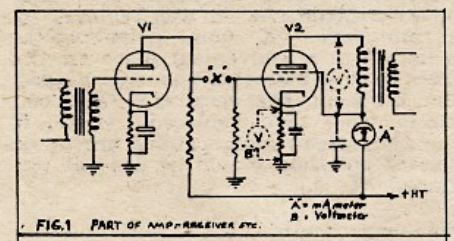

FIG.1 PART OF AMP. RECEIVER ETC.

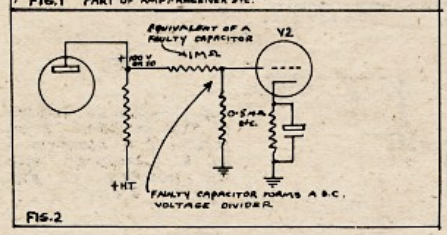

FIG.2

"OPEN-CIRCUIT" TYPE

A rather rare specimen of the capacitor family is the "open-circuit" type which pops up occasionally to cause its own particular brand of bother. This can be, in the case of anode coupling, "no sound," or in a by-pass position, oscillation and unexplainable "screwy" effects.

Recently I acquired from a picture theatre an amplifier which had been discarded as unsatisfactory and thinking it would make a nice modulator, put it on the bench for test. It utilised a phase splitter driving a push-pull stage and it certainly did not give any where near its rated output, in fact one of the output tubes did not seem to be doing any work at all.

After checking all components for rated values, the only things left were the 0.1 μF. coupling capacitors, and on a substitution test the one from the cathode of the driver was found to have an "internal open circuit". There is no sign of loose leads on the capacitor and it has a heavy moulded case, also it is a brand that I had not previously encountered any trouble with. I have a collection of these specimens but am glad to say they are rather rare unless, of course, they have been subject to physical mal-treatment.

TESTING

Well let us see if there is any way in which we can easily test our capacitor provided it shows high insulation resistance. As we all know, a capacitor will acquire a charge, the value depending on the electrical size of the capacitor and the applied voltage, and that it will discharge on joining its connecting leads together. If we place our capacitor across a source of voltage and, noting the polarity, discharge it through a milliammeter we will get a certain "kick"—the degree of which will depend on the voltage used and the sensitivity of the meter. Care must be taken that we do not damage our meter and it may be advisable to use a "multimeter" and try the higher voltage scales first. If a reasonable deflection can be obtained on the meter, it can be used as a fairly good indication of capacitance value.

In the case of small values, the headphone test will be found very handy. The capacitor is momentarily placed across a suitable source of voltage and then headphones placed across it, whereupon a "click" will be heard—the degree of which will give a reasonable indication of its value. It is a good plan to check any capacitor against a few more of similar value and then we at least know it has some appreciable capacity.

It is advisable to keep the hands away from the leads to prevent any accidental discharge as false readings may be obtained.

With the increasing tempo of constructional work being undertaken by the Amateur fraternity, I hope that the foregoing remarks may save some of them hours of frustration and they will get the habit of **"Test Before Installing"** and **"Re-check Occasionally"**.

This article has dealt with the older type capacitors and I hasten to add that very little trouble has been experienced with new capacitors bought over the counter in the last year or so. ●

* 40 Seaforth Avenue, Somerton Park, S.A.

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ARTICLES

Can you write an article for "Amateur Radio"? How about one for Hints and Kinks?

MODIFICATIONS TO THE BC348 RECEIVER*

J. P. MOORE, G3IKR

FOR about two years after being licensed the receiver in use at G3IKR was a BC348. True, it had had minor modifications carried out, such as removal of the generator, rewiring of the heaters and the addition of an extra audio stage. Basically, however, it was still a BC348 and as such had several drawbacks, viz.: (i) Lack of selectivity; (ii) Rather noisy, especially on the h.f. bands; (iii) No bandspread; (iv) Did not tune two Amateur bands (21 and 28 Mc.).

After about two years, the performance, which had been quite good orginally, began to fall off and the noise level increased. It was felt that some of the capacitors were no longer as good as they might be. Accordingly, the decoupling capacitors in the r.f. and mixer sections were removed and were in fact found to be of low resistance, and therefore useless. It was decided that, if good results were to be obtained once more, the receiver would have to be virtually completely re-built. At the same time, a number of alterations to overcome some of the drawbacks mentioned could be carried out.

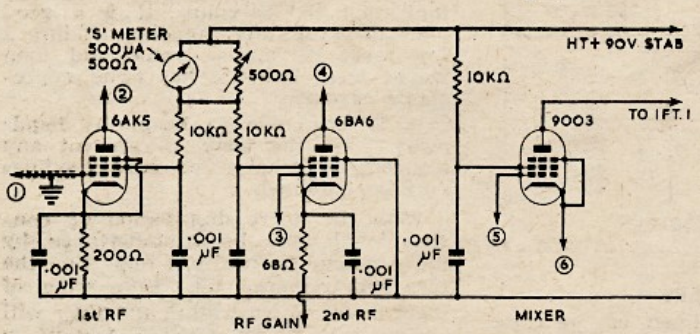


Fig. 1.—Circuit diagram of the modified "front end." The numbers 1 to 6 correspond with the numbers in Fig. 2(a).

The modifications to be described were done in three stages with some considerable time interval between the second and third. Readers may, of course, carry them all out together, and this is probably the best plan. The three stages were:

(1) Rewiring the "front end" using more modern valves (Fig. 1).

(2) Rewiring the remainder of the set and conversion to a double superhet (Fig. 4).

(3) Modification of the coil packs to provide bandspread on 7, 14 and 21 Mc. as described in "The Short Wave Magazine" for Dec. '53.

The present article deals with stages (1) and (2) only.

NEW VALVES FOR THE "FRONT END"

The small sub-chassis carrying the 6K7 r.f. valves and the 6J7 mixer was removed entirely, care being taken to preserve the wire which goes from the anode of the mixer (pin 3 on the 6J7) to the first i.f. transformer. The four coil boxes were removed by undoing the screws on top of the chassis, removing the switch rod, and unsoldering the various connections.

In each of the r.f. and mixer coil boxes, a ¼" hole was drilled and fitted with a grommet as shown in Fig. 2(a). The wires which originally went to the grid top caps of the valves were removed from inside the cans, and pieces of new wire arranged to pass through the grommets. Plenty of spare wire was left for ease in connecting up, the leads being cut later to the exact length required. It was necessary to screen the grid wire of the 6AK5 from the grid pin to the coil box—in some cases this might not be needed.

The sides of the oscillator coil box were next removed. The 15K ohm mixer cathode resistor was replaced by a miniature 5K ohm potentiometer mounted in a convenient place on the front of the box (i.e. the side nearest the front of the receiver). The coil boxes were then replaced. (Note: If the bandspread modifications are to be carried out they should be done at this stage.)

A new sub-chassis was constructed from 18 s.w.g. copper as shown in Fig. 3. Aluminium would be equally suitable, but if copper is used the small valve-holder screens can be soldered directly to the chassis.

Three ceramic valve-holders (polystyrene or p.t.f.e. would do just as well) were mounted as shown and the small screens soldered in position. A very small blowpipe was found to be better than a soldering iron for this operation. (Great care would be necessary if polystyrene or p.t.f.e. holders were used.)

The first three stages were wired up according to Figs. 1 and 2(b). Small disc ceramic capacitors were used for by-passing, and all resistors were ½ watt rating. The new sub-chassis was then screwed in position and connected up to the coil packs and power supplies. It should be noted that the uppermost of the two connections at the front of the oscillator section goes to the 6.3 volt heater supply. The lower connection goes directly to the stabilised 90 volt supply.

It was found necessary to re-align the r.f. section of the receiver after carrying out these alterations due to the changes in valve and circuit capacities. This was done by using a signal from the station frequency meter, adjusting the calibration first with the oscillator trimmer and then the r.f. and mixer trimmers for maximum response using the "S" meter as an indicator. The 5K ohm potentiometer in the mixer cathode was adjusted to give maximum signal-to-noise ratio on the h.f. band. It was adjusted by ear and found to be not too critical.

The rebuilding of the "front end" alone gave a very worthwhile improvement in signal-to-noise ratio.

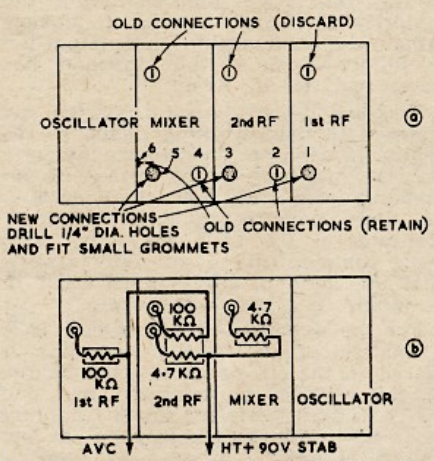


Fig. 2.—(a) Connections to the coil packs viewed from the front of the receiver. (b) Rear view of the coil packs showing the connections.

CONVERSION TO DOUBLE SUPERHET.

Changing the receiver to double conversion involved a fairly extensive rebuild. First, all the wiring and small components following the first i.f. transformer were stripped out, leaving only the valve-holders and i.f. transformers in position. The last i.f. transformer was, however, removed and replaced by the third i.f. transformer (85 Kc.) from a BC453 Command receiver.

A small sheet of 18 s.w.g. aluminium was cut to fit the space formerly occupied by the generator and on it were mounted the two remaining BC453 85 Kc. i.f. transformers, a crystal holder, and octal and B7G valve-holders.

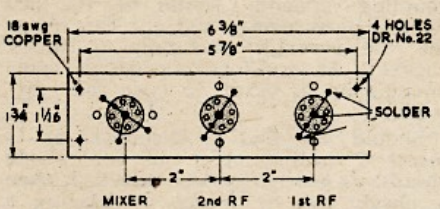


Fig. 3.—Underneath view of the new "front end" sub-chassis showing the positioning of the valve-holders and screens. 18 s.w.g. copper screens, 1 in. deep projecting about ½ in. beyond each valve-holder. Soldered to centre spigot and pin 4 in each case as well as to chassis at both ends.

* Reprinted from R.S.G.B. "Bulletin," Aug. '58.

The three-position switch on the front panel was removed and a 5K ohm wire-wound potentiometer mounted in its place as r.f. gain control. The combined a.f./r.f. potentiometer was removed and replaced by a ½ meghom audio gain control. A single-pole toggle switch was installed for a.v.c. on/off control. The output valve-holder was replaced by an octal type for a 6J5 audio stage. The output transformer was removed and a small sub-chassis cut from 18 s.w.g. aluminium to take its place; on this were mounted a B7G valve-holder and a small potted output transformer taken from the BC453. The circuit was then wired up as shown in Fig. 4, group boards being used where possible for the small components.

The use of the original 915 Kc. b.f.o. is not really recommended, but when the modifications were carried out an 85 Kc. b.f.o. coil was not available. The 915 Kc. b.f.o. is quite stable and produes a T9 note, but as the main interest at G3IKR is telephony working, the b.f.o. has never been altered. For serious c.w. work a variable injection b.f.o. at 85 Kc. is recommended.

The value of Rx in the b.f.o. anode circuit was found by trial to give optimum injection and depends upon the circuit layout. A value of 68K ohms is suggested as a start.

No details of the audio stages are given as some people like 10 watts of hi-fi, others being content with a low power stage driving headphones only.

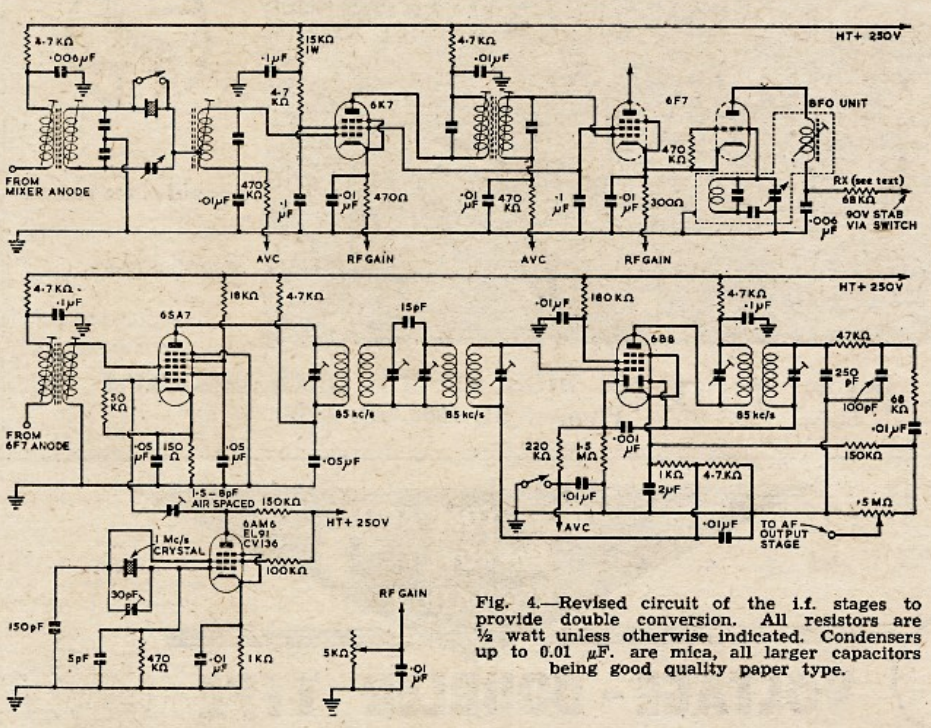


Fig. 4.—Revised circuit of the i.f. stages to provide double conversion. All resistors are ½ watt unless otherwise indicated. Condensers up to 0.01 μF. are mica, all larger capacitors being good quality paper type.

The circuit used in the writer's receiver incorporates a "Selectoject," an EL91 being used as a low power output stage giving ample volume with a 5" speaker.

In spite of previous articles to the contrary, a 1 Mc. crystal is perfectly satisfactory as a second oscillator, although in fact a 500 Kc. crystal will work equally well. Accurate 1 Mc. beats are produced throughout the tuning range which are useful for band-edge marking. The frequency can be adjusted to exactly 1 Mc. by adjustment of the trimmer across the crystal. The other trimmer in the second oscillator circuit should be adjusted to give sufficient injection; its setting is not at all critical.

Re-alignment will be necessary after these modifications have been carried out. Originally the receiver was re-aligned using the station v.f.o. and the "S" meter, as no proper equipment was available. It was afterwards checked using a wobbulator and oscilloscope and found to be very near the optimum position. No details for re-alignment are given as it is felt that those who carry out these modifications will have the necessary "know-how" and probably the equipment required to do it satisfactorily.

The provision of bandspread has been fully described elsewhere[1] and will not be dealt with here. Suffice it to say that the modification is very worthwhile both as regards actual bandspread and the increased performance effected by the better L/C ratios which are obtained.

RESULTS

Results have been better than expected, although it was unfortunate that a standard BC348 was not available for direct comparison. On the DX bands the modified receiver compares favourably with an AR88 as regards signal-to-noise ratio and sensitivity and runs it a close second for selectivity, the main disadvantage being lack of variable selectivity. After three years' use the writer is still unable to work all that he hears, probably due to the long wire aerial which is in use. Ninety-seven countries have been worked, mostly on 21 and 28 Mc. phone with comparative ease. On the latter band a modified RF24 unit, using 6AG5 valves, feeds into the receiver on 7 Mc. ●

1 "Bandspreading the BC348," M. A. Ryan (EI7D), "Short Wave Magazine," Dec. '53.

REMEMBRANCE DAY CONTEST

12th and 13th AUGUST, 1961

1800 hours to 1759 hours E.A.S.T.

CHANGE OF ADDRESS

W.I.A. members are requested to promptly notify any change of address to their Divisional Secretary, not direct to "Amateur Radio."

FURTHER NOTES ON THE BC221 FREQUENCY METER

ALAN H. REID,* VK3AHR

THE BC221 ("Bendix") Frequency Meter is certainly a very valuable instrument in the Ham shack. Apart from its main purpose in life, it is useful for lining up tuned circuits, as a source of audio frequency tones, as a v.f.o. for the transmitter, etc., etc. An article by VK2AQU in "A.R." last November discussed the accuracy of this meter and, in the hope that I can add something to this interesting subject, I offer some further comments.

To my mind, it seems quite pointless discussing the accuracy statements published by the manufacturer at the time these meters were put out. It is a long time ago, and at least some of the operating hazards mentioned are not encountered in Ham use. Rather I prefer to make my own calibration; this is not such a long job as it might sound, as accurate calibration is required only from 3500 to 3700 Kc. My method, as given below, is based on Models "AF" and "AL", but I believe it applies to all meters of the BC221 type.

RE-CALIBRATION

First of all, inspect the meter closely for mechanical deficiences and clean off any signs of corrosion. With a beat note audible in the headphones, check that all controls, etc., are free of noise and that the unit is "solid" electrically. The h.t. power supply should preferably be regulated and the meter warmed up for at least 15 minutes before proceeding with calibration. Actually, I allow at least one hour stabilising time.

With the station receiver tuned to WWVH on 15 Mc., and with its b.f.o. off, pick up some output from the meter by means of a short length of wire attached to the BC221 antenna terminal. This wire may be several feet long and is draped in the vicinity of the station receiver front-end. There should be no need to connect it electrically to the receiver antenna terminal although this might be permissible if it turned out to be necessary.

Turn the BC221 mode switch to the "crystal check" position and a beat note should be heard in the receiver. This is the 15th harmonic of the 1000 Kc. crystal within the meter, beating with the carrier of WWVH; it should not vary when the frequency meter tuning dial is moved or when the station receiver is detuned. If no beat is heard, check your coupling arrangements; if still no beat, then either your crystal is zero beat with WWVH (as it should be) or well off frequency.

The nameplate on the front of the meter is held on with four screws. Remove this and you will see a screwdriver adjustment which is a small variable capacitor wired directly across the 1000 Kc. crystal. Turning this should allow you to hear both sides of the beat note in the receiver. Set accurately to as close to zero beat as you can estimate and replace nameplate. This final setting should be done during the interval that WWVH is not sending out an audio frequency tone. This interval occurs every fifth minute, during which the one-second ticks remain and a voice and code announcement is given out. The standard crystal within the BC221 is now set to 1000 Kc. to a high order of accuracy.

Now to check how the calibration of the instrument has stood up against the shocks, temperature and humidity changes and general abuse of the last couple of decades. The calibration book lists ten "crystal check points" in the low band and fourteen in the high band. When the meter was ready for calibration in the factory, the corrector was, no doubt, left untouched in one position, probably the centre of its range, throughout the entire calibrating procedure. The readings on the dial of all these check points would then have been noted and printed on the bottom of the relevant pages of the calibration book, as well as against the respective frequencies in the body of the book. After this, no doubt all the other readings in the book were filled in using external known frequencies at the required close intervals.

It seems to me important to note that, when the meter was brand spanking new, all the C.C.P's. would have been "spot on" when compared with the readings in the book, once the corrector was set to any one of them. The corrector is fitted, of course, to allow for changes in value of the two oscillator inductances and for capacity changes (in the tuning capacitor and elsewhere) that would undoubtedly occur with time. Should the working range of this corrector get too far over to one side or the other, it may, incidentally, be centralised by two parallel pre-set capacitors (one for low band and one for high band) mounted at the side of the chassis. See VK2AQU's article for further details of this.

All BC221's I have used, and probably all such units in use today, require correcting to the various C.C.P's. as one proceeds from the bottom to the top of each range. The calibration book says "correct at the nearest check point and go right ahead," but what does the thinking Ham do if two neighbouring check points disagree by a significant amount and he wishes to establish a frequency somewhere in the middle? For instance, one meter I owned was 3 Kc. off the C.C.P. at 14,667 Kc., after correcting accurately at 14,000 Kc. Re-calibration was obviously desirable when working around 14,300 Kc. My present BC221 happens to agree within about 300 cycles at the points just mentioned so I just split the difference when setting the corrector and take the readings in the book as sufficiently accurate.

It is apparently not well known that there are many other C.C.P's. throughout the range of this frequency meter. These are genuine, usable crystal check points and I have a schedule of 40 of them throughout the low band and 45 in the high band. Many others of weaker intensity could also probably be identified and used.

The following table shows the five listed C.C.P's. between 3500 and 3666.7 Kc., each with its approximate relative output and make-up details.

C.C.P. No.	Het. Fund. Freq.	Rel. Output mW.	Het. Harm.	Xtal Harm.
34*	3500	34.0	2	7
35	3571	0.3	7	25
36	3600	3.4	5	18
37	3625	0.2	8	29
38*	3666.7	25.0	3	11

* Listed in calibration book.

This table shows, for example, that one would expect to hear the 5th harmonic of the heterodyne oscillator beating with the 18th harmonic of the crystal, at an intensity of about 3.4 mW. in the headphones. This will occur at 3600 Kc.

The above five frequencies covering the Ham bands are probably sufficient to enable the preparation of a large-scale calibration curve for the meter over this range. I would expect this curve to give readings, at 3.5 Mc., within 250 cycles of the true frequency and to retain this accuracy, under Ham conditions, for years. A loss of accuracy would be made evident, if and when it occurred, by the necessity to use the corrector when moving to the higher check points, after setting on that at 3.5 Mc. ●

* 93 Yarrbat Avenue, Balwyn, Vic.

REMEMBRANCE DAY CONTEST, 1961

A handsome perpetual trophy is awarded annually for competition between States inscribed with the names of those who made the supreme sacrifice, and so, perpetuating their memory throughout Amateur Radio in Australia.

The name of the winning Division each year is also inscribed on the trophy. In addition, the winning Division will receive a suitably inscribed framed photograph of the trophy.

Objects

Amateurs in each Call Area (this includes those in Australian Mandated Territories and Australian Antarctica) will endeavour to contact Amateurs in all other Call Areas (VK1 and VK2 are considered to be the one Call Area. Likewise VK5 and VK8.)

Date of Contest

12th and 13th August, 1961.

Duration

From 1800 hours E.A.S.T., 12th August, to 1759 hours E.A.S.T., on 13th August, 1961. A period of 15 minutes' silence will be observed by all stations on 12th August, immediately prior to the start of the Contest when an appropriate broadcast will be made from VK3WIA and relayed by the Divisional Stations.

RULES

1. There shall be four sections to the Contest:
   (a) Transmitting Phone.
   (b) Transmitting C.w.
   (c) Transmitting Open.
   (d) Receiving Open.

2. All Australian Amateurs may enter the Contest whether their stations are fixed, portable or mobile, but only members of the W.I.A. are eligible for the Awards. Portable-mobile operation is defined as transmitting and/or receiving equipment which is not connected to any private or public power mains or plant.

3. All Amateur frequency bands may be used, but no cross-band operation is permitted.

4. Amateurs may operate on both phone and c.w. during the Contest (e.g. phone to phone, c.w. to c.w., or phone to c.w. and vice versa), but may submit an entry for only one of the above Sections listed in Rule 1.

An Open log will be one in which points are claimed for both phone and c.w. transmissions.

A contestant transmitting on phone but receiving on c.w. must enter for the phone section (and vice versa). Refer to Rule 11 concerning entry in logs.

● The Federal Contest Committee of the Wireless Institute of Australia wishes all Australian Amateurs and Short Wave Listeners to participate in the Annual Contest which is held to perpetuate the memory of those Australian Amateurs who gave their lives for their country during World War II. It is held on the week-end nearest to the 15th August, the date on which hostilities ceased in the S.W.P.A.

5. Only one contact per station per band is allowed and arranged schedules for contacts on other bands is not permitted.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a contestant and must submit a separate log under his own call sign.

Contestants operating stations other than their own shall be referred to, for the purpose of these rules, as "substitute operators". Their operating procedure shall be as follows:

Phone contacts: Substitute operators will call "CQ Remembrance Day" followed by the call sign of the station they are operating and the word "log" followed by their own call sign.

C.w. contacts: Substitute operators will call "CQ RD de" followed by the group call sign comprising the call sign of the station they are operating, an oblique stroke, and their own call sign.

Contestants receiving signals from a substitute operator will qualify for points by recording the call sign of the substitute operator only.

7. Entrants must operate within the terms of their licences.

8. **Cyphers**: Before points may be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telephony) or RST (c.w.) reports plus three figures starting from 001 for the contact and which will increase in value by one for each successive contact. If any contestant reaches 999, he will start again with 001.

9. Entries must be set out as shown in the example, using only one side of the paper, and wherever possible standard W.I.A. log sheets should be used.

Entries must be postmarked not later than **2nd September, 1961**, and addressed to the **Federal Contest Committee, W.I.A., Box 851J, G.P.O., Hobart, Tas.**

10. Scoring will be based on the table shown:

SCORING TABLE

From	To VK0	VK1-2	VK3	VK4	VK5-8	VK6	VK7	VK9
VK0 ..	–	6	6	6	6	6	6	6
VK1-2	6	–	1	2	3	5	4	6
VK3 ..	6	1	–	3	2	5	4	6
VK4 ..	6	1	2	–	3	6	5	4
VK5-8	6	2	1	3	–	5	4	6
VK6 ..	6	1	2	4	3	–	5	6
VK7 ..	6	2	1	4	3	5	–	6
VK9 ..	6	1	2	3	4	5	6	–

Note.—Read table from left to right for points for the various call areas.

In addition a bonus of 25 points may be claimed for the first contact in each call area on 50 Mc. or above.

11. All logs shall be set out as in the example shown and in addition will carry a front sheet showing the following information:

Name.....Section.....

Address.....Call Sign.....

Claimed Score.....

Declaration: I hereby certify that I have operated in accordance with the rules and spirit of the Contest.

Signed.....

Date.....

All contacts made during the Contest must be shown in the log submitted (see Rule 4).

Entrants in the Open Section must show phone and c.w. contacts in numerical sequence.

12. The right to disqualify any entrant who, during the Contest, has not observed the regulations or who has consistently departed from the accepted code of operating ethics.

13. The ruling of the Federal Contest Committee of the W.I.A. will be final. No disputes will be entered into.

14. Certificates will be awarded to the winners of the phone, c.w., open and receiving sections in each call area (Northern Territory will count as a separate call area). There will be no outright winner for Australia. Further Certificates may be awarded at the discretion of the Contest Committee.

The State to which the Perpetual Trophy will be awarded shall be determined in the following way:

To the average of the top six logs shall be added a bonus arrived at by adding to this average, the ratio of

EXAMPLE OF TRANSMITTING LOG

Date/ Time E.A.S.T.	Band	Emission	Call Sign	RST Nr. Sent	RST Nr. Rcvd.	V.h.f. Bonus	Points Claim.	——

Note.—Standard W.I.A. Log Sheets may be used to follow above form.

EXAMPLE OF RECEIVING LOG (VICTORIAN S.W.L.)

Date/ Time E.A.S.T.	Band	Emission	Call Sign Heard	RST Nr. Sent	RST Nr. Rcvd.	Station Called	V.h.f. Bonus	Points Claim.	——
Aug. '61									
12 1802	7 Mc.	A3	VK5XU	59001	——	VK3XU	—	2	——
12 1805	,,	,,	VK6RU	56004	——	VK9DB	—	5	——
13 1115	50 ,,	,,	VK4RZ	47135	——	VK5QR	25	3	——

Note.—Standard W.I.A. Log Sheets may be used to follow the above form.

logs entered to the State Licencees, multiplied by the total points from all entries.

Example:

Average of the top six logs + $\left(\frac{\text{Logs Entered}}{\text{State Licencees}} \times \frac{\text{Total of Points}}{\text{from all Entrants}}\right)$

Acceptable logs shall show at least five valid contacts.

The Trophy shall be forwarded to the winning State in its container and will be held by that State for a period of twelve months.

Note. The F.C.C. emphasises the need for strict observance of Rule 9 in the Transmitting Section and Rule 3 in the Receiving Section.

RECEIVING SECTION

1. The Receiving Section is open to all Short Wave Listeners in Australia, but no Transmitting Station may enter.

2. Contest times and logging of stations on each band are as for transmitting.

3. All logs shall be set out as shown in the example. Logs must show first the call sign of the station calling (not the station being called), the serial number sent by it and then the call sign of the station being worked. The scoring table to be used is the same as that used for transmitting and points must be claimed on the basis of the State in which the receiving station is located. A sample is given to clarify the position.

It is not sufficient to log a station calling CQ, nor is it permissible to log a station in the same call area as the receiving station.

For purposes of the Contest, VK1 and VK2 are considered to be in the same call area, likewise VK5 and VK8.

4. A station heard may be logged once on phone and once on c.w. for each band.

5. Club receiving stations may enter for the Receiving Section of the Contest, but will not be eligible for the single operator award.

However, if sufficient entries are received a special award may be given to the top scoring receiving Club station. All operators must sign the Declaration.

6. **Awards.** Certificates will be awarded to the highest scorer in each call area. Further certificates may be awarded at the discretion of the Federal Contest Committee.

A MESSAGE FROM HONG KONG

As President of the Hong Kong Amateur Radio Transmitting Society, I (VS6DS) would like to take this opportunity which has been kindly offered by VK3YQ, to send greetings to the President, officers and members of the Wireless Institute of Australia, in this the 31st year of our existence as a Society.

Although small in numbers, we lack nothing in interest, and our enthusiasm makes up for our smallness, enabling us to play a not insignificant part in the field of Amateur Radio. Nevertheless we look to the Wireless Institute of Australia and the New Zealand Amateur Radio Transmitting Society as being the natural leaders in the field of Zone 3. We, like you, hope that in combination with other Societies in the area it will be possible to create further activity under the auspices of the International Amateur Radio Union for the benefit of all Amateurs in this zone.

Of particular significance in this respect and which I would like to draw attention to at the present time, is the very vexed question of intruders in Amateur bands, for it seems to us that it would be better by far if we could pool the information which becomes available on these intruder stations, so that a case could be made to the International Amateur Radio Union for Zone 3 as a whole, rather than representations on a solely national level.

As members of an international body we are constantly reminded of the good fellowship which is automatically engendered in the persuit of our hobby, and in our constant contact with each other across natural and international boundaries. In this connection I trust you will forgive me if I draw your attention to a particularly fine example of the spirit which has recently occurred.

In Hong Kong we publish a small newsletter, and we are very pleased to see occasional extracts reprinted in the more ambitious magazines of the larger organisations. This news-sheet of ours is intended primarily for local consumption, and when recently an appeal was made to local members for back numbers of various publications to complete the Society's volumes, the fact that this item would also be read by others was entirely overlooked.

To our surprise, a few weeks later a parcel of "QSTs" containing all the missing numbers arrived unannounced with the compliments of the Secretary of the Amateur Radio Relay League. This was indeed a surprise, and does demonstrate the international fellowship which exists in the field of Amateur Radio, but a further surprise was in store for us, for via VK3YQ, we have now received quite independently from Mr. J. Lancaster, the Federal Secretary of the W.I.A., the back numbers of "Amateur Radio" which we also were missing. As an unsolicited and totally unexpected example of the spirit of Amateur co-operation, I consider this would indeed be very hard to beat.

In wishing you all the very best of luck and plenty of DX from Hong Kong, may I quote a few lines from Kipling which used to appear in our pre-war magazine under the title of Radio Amateur, which expresses far better than I can, the spirit of Amateur Radio:

Only the master should praise us
Only the master should blame
No-one shall work for money
No-one shall work for fame.

[The above was taken from a speech by VS6DS, recorded in Hong Kong by VK3YQ, and printed by "A.R." for general interest of all Australian Amateurs.—Ed.]

1960 "CQ" C.W. Results

Number groups after call letters denote the following: Band, final score, number of QSOs, zones and countries.

VK2GW ..	A	326,696	593	76	118
VK2APK ..	14	55,944	282	28	44
VK3ADB ..	A	45,360	214	34	36
VK3YD	14	5,800	60	17	23
VK3TL	14	5,616	78	13	13
VK3APV ..	14	5,460	67	14	14
VK3XB	14	5,148	58	15	18
VK4SD	14	5,680	52	18	22
VK4XW ..	7	3,660	68	10	10
VK5JT	A	12,628	102	23	21
VK5MF ..	A	5,920	58	21	19
VK5RX	14	9,780	76	17	28
VK5LD	7	720	15	7	9
VK6RU	A	260,678	486	73	114
VK7SM ..	A	58,236	235	41	51
VK7KA	14	13,912	110	21	26

★

First All Asian DX Contest

Results of the First All Asian DX Contest, conducted by the Japan Amateur Radio League, are now to hand. The outright high score was 4X4JU with 55,000 points. Australian scorers were (M indicates multi-band operation):

VK9XK	M	2640	pts.
VK5NQ	M	2067	„
VK2GW	M	1470	„
VK6RU	M	567	„
VK7WA	M	342	„
VK7JB	M	240	„
VK5JT	M	24	„
VK2DI	28	220	„
VK4SD	14	368	„
VK5KU	14	72	„

SECOND ALL ASIAN DX CONTEST

1. **Contest Period:** 30 hours from 1000 GMT 26th August, 1961, to 1600 GMT, 27th August, 1961. (During the last week-end, August, every year.)

2. **Contest Call:** Station participating in this Contest may call "CQ AA".

3. **Bands:** The following Amateur bands may be used during the Contest: 3.5, 7, 14, 21, and 28 Mc.

4. **Type of Emission:** C.w. only.

5. **Type of Competition:** (a) Single band, single operator; (b) Multiband, single operator.

6. **Equipments:** There is no limit to the number of tx's and rx's allowed and competitors may use the maximum power permitted under the terms of their licence.

7. **Serial Numbers:** (a) For OM stations: The serial numbers of five figures will consist of the RST reports plus two figures of their age. (Example: If your age is 35, number will be RST plus 35.)

(b) For YL stations: The serial numbers of five figures will consist of the RST reports plus the figures of "00" (zero, zero).

8. **Points an Multiplier:** (a) For Non-Asian stations: A contact only with an Asian station will count one point and a multiplier of one for each Asian country on each band.

(b) For Asian stations: A contact only with a non-Asian station will count one point and a multiplier of one for each non-Asian country listed in DXCC and WAE country lists.

9. **Scoring:** (a) The score of each single band is the country multiplier for that band, multiplied by the total contact points on that band.

(b) The total of all band score is the same of country multiplier of all bands, multiplied by the sum of contact points on all bands.

10. **Awards:** A certificate will be awarded to following operators of every country: (a) For single band entry: highest scoring operator on each band; (b) For multiband entry: the highest scoring three operators.

11. **Special Award:** In addition a special cup will be awarded to the highest scoring single operator on multiband in each continent.

12. **Deadline:** All logs must be postmarked not later than 30th September, 1961. Send all logs directly to J.A.R.L., Att. Contest Committee, P.O. Box 377, Tokyo Central ,Japan.

Details of log pro forma may be had on application to the W.I.A. Federal Contest Committee or the Federal QSL Bureau.

AMATEUR ACTIVITY AT 1961 ALICE SPRINGS SHOW

The second annual show was held on 19th and 20th May in bright, warm, 70 degrees weather, under cloudless skies.

Bill VK8EW set up his gear in the machinery pavilion (so-called), but a better name would have been the miscellaneous pavilion! Two calves were in a corner barely 30 feet away and did they give any QRM? Ask anyone we worked! Those poddies wanted their Mums, and they told the world—literally!

Considering the modulated milk bottles already mentioned, spark-plug testers, sewing machines and a portable chain-saw, among other things, we did quite well, working 37 stations in 11 countries.

Ralph VK8NK popped into the pavilion occasionally to help Bill and me (VK8UX) keep the rig on 21 Mc. during the day, and on 14 and 3.5 Mc. at night. Graham Jenkins, who is waiting for his full ticket to be issued, enjoyed a couple of goes at the mike.

To maintain public interest (which was the object of the set-up), only those stations with good signal strengths were QSOed. Quite lively interest was shown by the public and several people enjoyed saying "Hello" to somebody in a distant land, but a surprising number suffered from "mike fright". The interest shown by teenagers, both girls and boys, was gratifying.

On Saturday, Ken VK3KR told us that Graham VK3QZ was at Ayers Rock with a Type 3 on 80 metres and would be in The Alice on Sunday. Sure enough, when I went out to the Motel, there he was stringing wires from hills and trees with gay abandon. Later that night he put an f.b. signal down into VK3 to keep an eight-way sked.

Stations worked from the Show included a number from VK2, 3, 5 and 6 on various bands. ZL3RB joined in a round-table of eight stations on 80 mx on the Friday night, and VK9RO was worked on 14 megs.

21 Mc. DX included 4S7GE in Central Ceylon and who had to survive some QRM; K6SHA, who was S9 for a 40-minute yarn; W6YWI, who had to rush off to watch his favourite t.v. show; KH6DJV, Kimo, who was very happy because it was pay day, and kept up the chatter for 1¾ hours, S9 all the way; K7BCX from Portland, Oregon; ZL1PV, VK9PJ, K6YCI who came back to us on c.w.; WA6LCK, who gave us a fine contact for the listening public; VS1FE, David's 25 watts put in a tremendous signal—he had been climbing up and down his tower in 85 degrees and high humidity to adjust his cubical quad, but the result was worth it; ZE7JR was cooking a very early breakfast, but was putting out an S9 plus signal at the same time; 9MQAE rounded off a couple of days' operating.

Bill's rig was a Geloso front-end feeding a buffer and an 813 final at 100 watts, and an H.R.O. receiver. The aerials were dipoles fixed to lengths of water-pipe which were hoisted and tied to the tennis-court floodlight standards, giving about 40 feet in all.

I reckoned that I had spark-plugs in my ears at the end of the second day, but we felt that we had given Ham Radio a boost up here in the Centre.

☆

STATISTICS RE DXCC

To work DXCC is not an easy task due to the lack of Amateur stations in various countries. If it is assumed that you can readily work one per cent. of the Amateurs in a particular country, then you should have no difficulty in obtaining the following contacts: CE, CM, CO, CN8, CP, CR7, CT1, CX, DJ, DL, DM, EA, EI, F, FA, G, GI, GM, GW, HB, HC, HK, I, IT, JA, KA, KH6, KL7, KP4, KR6, KZ5, LA, LU, OA, OH, ON, OQ5-0, OZ, PA0-P1, PY, SM, SP, TG, TI, VE, VK, VO, VU, W-K, XE, YN, YU, YV, ZE, ZL and 4X4.

But this amounts to only fifty-four countries so that to reach DXCC it will be necessary to work say two per cent. of the remaining Amateurs in the other countries which have fifty or more licensed stations. These countries would be: DU, EL, HH, HP, HR, KG6, VK9, VQ2-N, VQ4, YS and 4S7.

By so doing you have added another eleven countries; thereby making your total sixty-five, but you still have to work an additional thirty-five countries which will have fifty or less Amateur stations. To obtain DXCC is a difficult task from the statistician's point of view (which neglects the m.u.f., language difficulties, and the XYL.) Therefore it is a hallmark to show DXCC on your QSL card so congratulations to those who succeed.

Book Review

"'A TO Z' IN AUDIO"

By G. A. Briggs with R. E. Cooke as Technical Editor.

This 224 page book provides a comprehensive technical dictionary of terms applied in audio. It is very well illustrated and many engineers would find it a very useful reference book. Several cartoons amply express a point and the clear diagrams help the text.

Various illustrations are actual do-it-yourself projects, so the book has a practical as well as a theoretical use. It would be a very useful adjunct to the audiophiles library and could prove a popular addition to any library. The reader will gain from reading this book. The price is 26/6, post free.

Our copy was supplied by McGill's Authorised Newsagency, 183 Elizabeth St., Melbourne.

"HOW TO USE GRID DIP OSCILLATORS"

By Rufus P. Turner (No. 245 in the Rider publication series).

This 103 page booklet covers in ten chapters the full scope of that most useful instrument, the g.d.o. Every Amateur should be familiar with the g.d.o., but after reading this well prepared and amply illustrated booklet, he would be in a better position to obtain the maximum advantage from this very versatile piece of gear.

This is a practical booklet and each chapter shows how a specific measurement may be made. Whilst the writer shows how the measurement is to be made, this reviewer considers that it would be an advantage to also state the limits of inaccuracy in the method adopted, however this comment should not detract from an excellent publication that the progressive Amateur should have for ready reference. The price is 26/9 plus 1/- postage.

Our copy from McGill's Authorised Newsagency.

"RADIO AMATEUR'S HANDBOOK"
38th Edition, 1961

After thirty-five years of publication by the American Radio Relay League, it becomes difficult to review a book that has won such world-wide acceptance, so this review will be directed towards those who already possess an old edition of the A.R.R.L. Handbook. If the reader does not already have a copy it can be said that this book is a must for every Amateur shack. It is also a book widely found in other locations where electronics are used, and research laboratories, schools, libraries, universities, etc., all find it a valuable reference source.

The twenty-five chapters have become standardised during the years as regards their format, but each edition sees the addition and deletion of various data. For this reaosn it is well worth while purchasing the latest edition, even though you may already have an earlier copy.

The first three chapters follow the principle of briefly telling the facts regarding the electrical cornerstones of radio, capacity, inductance, and resistance. The fourth chapter outlines the semi-conductor devices which are playing an increasing important task in electronics.

Construction of receivers is fully dealt with in chapter five, and well illustrated diagrams make the construction an easier task. Chapters six to twelve deal with all facets of transmitters, and the associated transmission lines, aerials, and wave propagation are covered in the next three chapters.

V.h.f. receives special attention with a further three chapters devoted to this art. Then chapters 19 to 24 cover the other parts of Amateur Radio such as mobile, test gear, measurements, and b.c.i. and t.v.i.

The final chapter (25) is particularly useful as it covers vacuum tubes, and this index provides a most comprehensive data sheet which is an excellent reference source.

The A.R.R.L. Handbook, if intelligently used, will provide the construction details, theory, and general information required by every Amateur Radio operator. It is a standard reference work which is an essential part of every Amateur shack.

Our copies from McGill's Authorised Newsagency, 183 Elizabeth St., Melbourne, and Technical Book & Magazine Co., 292 Swaston St., Melbourne. Priced at 46/3 plus postage.

"TUBE AND SEMICONDUCTOR GUIDE"
By T. J. Kroes, Philips Tech. Library

This 180-page booklet, 6 x 9 inches, is a most valuable addition to any library or organisation which deals with electronics.

It comprises eight sections plus a translation text in French, German and Spanish. The sections are: interchangeability list, valves radio, cathode ray tubes, transmitting tubes, microwave tubes, industrial types, miscellaneous, and semi-conductors.

Each section contains recommendations for the preferred tube type, a classified list, base connections, socket diagrams, and general data pertaining to that tube type. A most useful feature is an explanation of the tube designation code, which covers European and the E.I.A. system.

This is a well prepared and solidly bound booklet, and this no doubt reflects the hard wear it will take when purchased. It will prove a most valuable addition to all who have to concern themselves with tubes (valves) and rapidly require to ascertain their salient characteristics, then decide upon the preferred type.

Our copy from Philips Electrical Industries Pty. Ltd. Copies should be available from any Philips office or large booksellers. Price 17/6 plus postage.

K6TQN TO CO-ORDINATE CIVIL DEFENCE

Robert L. Spencer, Snr., K6TQN, 507 Santa Clara Ave., has been appointed group co-ordinator of Civil Defence with the additional duty of Air-Sea Rescue Unit Information Officer for Peninsula Group 2, Civil Air Patrol.

The announcement was made by Major E. W. Parmenter, commander of the First Air-Sea Rescue Unit based at the Port of Redwood City.

Parmenter, who lives at 1674 Alameda, said the newly-named liaison officer between Civil Air Patrol and Civil Defence will co-ordinate the air-sea search and rescue activities of the local organisation with city and country directors of Civil Defence and disaster mobilisation for drills and exercises and radiological detection.

Robert K6TQN, a Redwood City business executive, last September was appointed radio officer for the Redwood City Civil Defence and Disaster Communictaions network and is a graduate of the O.C.D.M. radiation detection and instrumentation course. He is married and has one son, Robert Jnr., 18, presently stationed in Germany where he is attached to the 24th Engineer Battalion of the Army.

50 Mc. W.A.S.

Call	Cer. No.	Add. Cntr.	Call	Cer. No.	Add. Cntr.
VK2WJ ..	13	4	VK6DW ..	3	1
VK3ZFM	22	4	VK3RR ..	6	1
VK4HR ..	4	3	VK3HT ..	7	1
VK3GP ..	5	3	VK2AEZ	10	1
VK2ABC	8	3	VK3XA ..	11	1
VK2VW ..	9	3	VK3GM ..	12	1
VK5GG ..	19	3	VK3ACL	14	1
VK5ZAX	20	3	VK3ZD ..	16	1
VK5ZBL	21	3	VK2HO ..	17	1
VK4RY ..	2	2	VK3ZEA	18	1
VK5LC ..	1	1	VK2WH ..	15	

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

ROSS HULL CONTEST

Editor "A.R.," Dear Sir,

It is appreciated that letters to the Editor concerning specific discussions can only be granted limited time and space, but I trust that this very important subject has not to date been dispensed with.

With the exception of a brief reference to a letter by 4ZAA, as mentioned in David 3QV's most recent correspondence, it would seem that the V.h.f. Group in Queensland is as complacent as everyone else, including F.C.C., in regard to existing rules.

If the comments heard from other States towards the end of last season, and if the many differences of opinion locally are any indication, then the necessity of modifications must be undoubted, but on the surface, with the exception of letters and notes apparently accompanying contest logs, little concrete effort seems to have been made to develop generally acceptable changes.

This is the basis of the letter from 4ZAA to which David refers. It was compiled not as a singular effort, but consisted of the nett result of joint opinions from all of the v.h.f. operators in Brisbane—those interested in the Ross Hull and those who see no value in operating under the present rules.

Unfortunately, although quite some months have passed, we have not been favoured with a reply, and it is to be hoped that these suggestions have not been summarily dealt with along the ilnes of the closing paragraph of F.C.C's. presentation of the result in June issue of "A.R."

The contents of that letter are too lengthy to be repeated here, but suffice to say that for every change recommended, every justification possible has been given from our point of view as we feel it affects all States.

Let us not be unduly critical—the F.C.C's. job is a most exacting and difficult one, and if it is felt widely that changes are necessary, then let each of the V.h.f. Groups do the right thing and prepare in detail every change that members consider warranted and give all possible justification. After all, it cannot be expected that all the members of the Contest Committee would have the specialised knowledge and experience of V.h.f. Contests which makes us call for the changes.

Six detailed proposals must produce reasonably unanimous agreement, or at least provide a very definite basis on which to analyse requirements.

I have no doubt that F.C.C. would be only too willing to review arguments presented in this fashion—or should they require it—have no difficulty in finding representatives in each State who could quickly, together, even by correspondence, produce the alterations most generally accepted.

We have little enough time left now—when we consider the amount of work involved in altering rules and in publishing them—so let each of the Groups prepare concrete proposals rather than, with due regard to the excellence of thel etters concerned, stab vaguely in the air.

—D. B. Hughes, VK4BZ.

DECADE COUNTERS

Editor "A.R.," Dear Sir,

Re AFDR1, who does the Magazine Committee think they are kidding? Presumably AFDR1 stands for April Fool's Day Rx No. 1, or maybe April Fools' Dream Rx No. 1. Maybe with another 9 tacked on to the £s department of the price, the story would look a little more convincing.

The idea of hooking a decade counter on to the communication Rx is technically interesting, but of course it's not new, and the practical solution bristles with problems. Counters are available commercially which count up to 10 megs., but at a price. Marconi have one for £798 sterling, if you're interested.

In this application, the counter is only half the story. The h.f. oscillator would require to have superlative stability and the b.f.o. also requires to be of high stability, in addition problems of accurately centreing the signal in the i.f. passband present themselves. Double conversion above 10 Mc. would be necessary and this would complicate the counting procedure.

The writer has started preliminary work on a decade counted MN26, which will be fed from a xtal locked converter with switched xtals for the h.f. bands a la 75A4. It is proposed to use transistorised decades up to 10 kc. and the last three decades will use valves.

I would be interested to hear from anyone else who is working along these lines.

—I. F. Berwick, VK3ALZ.

OBITUARY

CHARLES WELCH WALKER, VK4CU

It is with deep regret that we record the passing of Charles Welch Walker, VK4CU, of Clifton, Qld., on 12th May, at the age of 62. Chas. also held the portable call sign of VK4DQ.

Chas. was held in great respect and high esteem by the hundreds of Hams throughout the Commonwealth and New Zealand who had contacted him over the years on 80, 40 and 6 metres. He was a great exponent of v.h.f. and was well known for his portable work, having gained first place in the National Field Day, 22/9/51.

He was a member of the Old Timers Club (A.R.R.L.) and was indeed an Old Timer as his A.O.C.P. was No. 10 and was issued on 24/10/24. He was associated in the very early days, transmitting on the broadcast band, with VK3KR, who is still active.

The great respect in which he was held by the people he so faithfully served in the town of Clifton was evident by the estimate of 650 people who attended his funeral. He will indeed be sadly missed on the bands.

He is survived by his widow and three daughters.

KEITH HAWKES, VK4HP

Keith Hawkes, VK4HP, of 13 Railway Parade, Wynnum, who was born in Victoria on 14th March, 1934, was laid to rest in Hemmant Cemetery on Tuesday, 30th May, 1961. He became seriously ill last February.

Keith, who had been employed in the Telegraph Branch of the P.M.G., was known as a good c.w. man. He was extremely well liked in his section, being a worker for the "Sparks Club" of that section, and on hearing of his illness, his workmates presented him with a new 23 inch t.v. set.

To his sorrowing mother and two brothers go the deepest sympathy of the W.I.A.

TED DODDY, VK6WH
HARRY TARBOTTON, VK6HT

It is with regret that we record the passing of Ted Doddy (VK6WH) and Harry Tarbotton (VK6HT).

Ted, particularly in the days following the First World War, was a great pillar of the VK6 Division. He held several offices in which he did yeoman service in the cause of Amateur Radio. He was President of the Radio Society which was originally the Subiaco Radio Club, for several years and wherever Amateur Radio existed, Ted was a great organiser and helper.

Harry Tarbotton spent most of his Radio days at Albany and was for many years an able and willing helper for the Institute. A couple of years ago, Harry gave Amateur Radio a rest, taking on a motor boat in his spare time.

VK6 owes much to both Ted and Harry and their passing within a week of each other were sad days for Amateurs in the West.

Our condolences are extended to Mrs. Doddy and her grown-up family, and to the relatives of Harry Tarbotton.

"Did you say you were being troubled with oscillations—or osculations?"

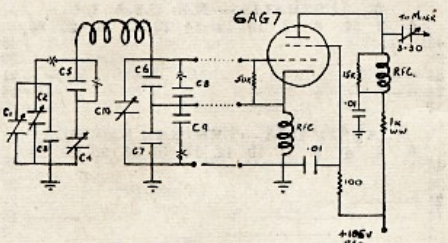
SIDEBAND

Bud Pounsett, VK2AQJ
6 Alice Street,
Queanbeyan, N.S.W.

MIXER AND CONTROL CIRCUITS AT VK2ON (Second Part of Series)

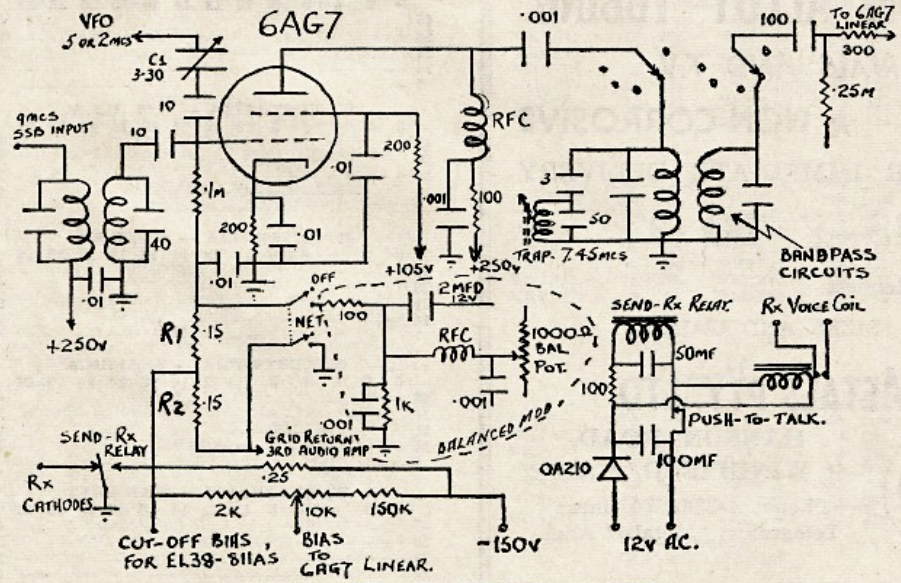
This latest evolution of the mixer stage uses a 6AG7 valve. The first edition used a 6U8 as infinite impedance mixer but the output was rather poor. The present circuit gives 13v. output for about 2v. of 9 megs. input. The output was measured by noting the start of grid current at the first linear stage which has variable grid bias 3-13 volts from a separate bias source (OA210 rectifier).

Double-tuned circuits are used where convenient to reduce spurious frequencies. Injection from the v.f.o. (6AG7) is controlled by the 30 pF. concentric trimmer C1. The correct setting (about 3 pF.) is such that there is almost no grid current flowing in R1. With the v.f.o. on 1.85 megs. (7.15 meg. operation) the spurious 7.4 meg. 4th harmonic signal increases markedly if grid current flows and conversion conductance is near optimum with r.f. excitation just less than bias voltage (3v.). It may be better to switch in two concentric variables, one for 5 meg. operation and one for 2 megs.

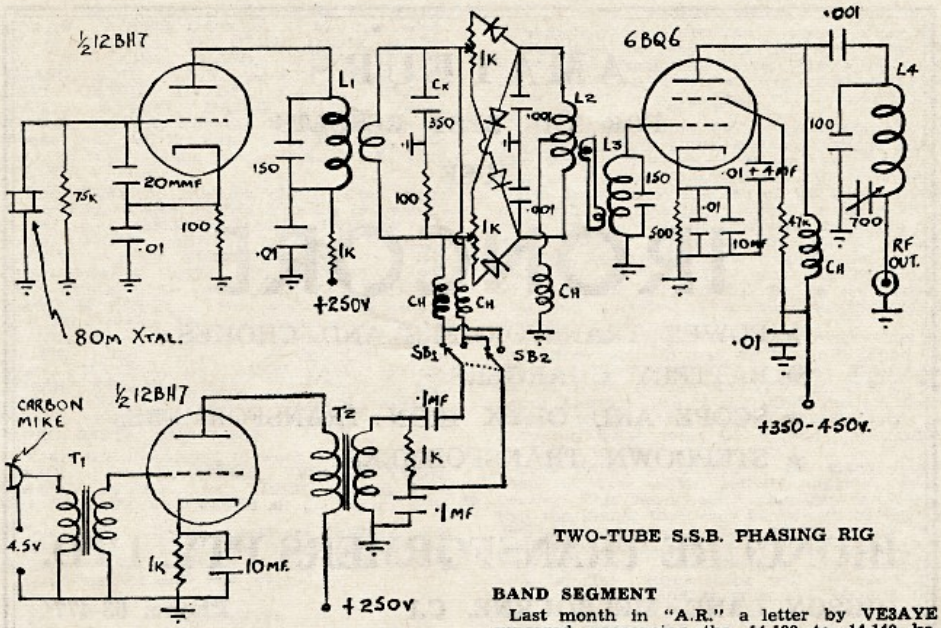


THE V.F.O. AT VK2ON

The band-pass circuits are switched, one for each band. Slug-tuned plastic unshielded formers, 2½ x ¼ inch do a good job here. Fixed condensers of 120, 75, 35 pF. are used for 80, 40 and 20 mx bands. Stagger-tuning with close coupling gives good transfer across the whole range 3.5-3.8 megs. Across the 40 mx plate coil is an absorption circuit tuned to 7.45 megs. (adjust with v.f.o. on 1.86 megs.). Using correct v.f.o. injection and this trap circuit, reduces spurious output from the tx to zero. Subsequent linear tuned circuits are three and each has a trimmer or tuning condenser to be peaked up.



VK2ON MIXER AND CONTROL CIRCUITS



TWO-TUBE S.S.B. PHASING RIG

The netting switch is a single-pole double-throw toggle variety. When thrown to "on" the mixer is operative and the balanced mod. is unbalanced by a small current from R1 flowing through one of the two 1,000 ohm diode return resistors (audio across this resistor from the cathode follower 12AU7 modulates the germanium diode network). When thrown to "off" the switch earths R2, removing cut-off bias from the 3rd audio stage. When netting it is important to cut off the microphone circuit, and this is a simple way of doing so.

The control circuit uses 12v. d.c., rectified by another OA210 from the 12v. a.c. heater supply. I would recommend a 1 : 1 isolation transformer here to allow the heater leads to be better by-passed to earth. Balanced modulators have a tendency to pick up harmonics of 50 cycles generated by the OA210. A small delay circuit (100 ohms and 50 μF.) is used on the S-R relay to eliminate clicks on "make". This ensures that the voice coil lead is broken before the tx comes on. The relays are tiny ones from the BC458 tx with one contact twisted back to make an s.p.d.t. action (see Command Conversion Manual). Incidentally, to keep the moths away, the morse automatic key at VK2ON is used for push to talk switch. This also allows the use of break-in c.w. operation by injection of a little carrier into the bal. mod. The simple rectifying system is sufficient for an antenna relay as well if desired. The writer has now changed to an efficient T.R. switch, however, and it is hoped to describe this later. Next month the audio stages and balanced modulator will be described.

BAND SEGMENT

Last month in "A.R." a letter by **VE3AYE** appeared concerning the 14,100 to 14,140 kc. segment of 20 mx. I for one, and there are many supporters, thoroughly endorse the suggestion. By the very marked lack of DX stations at the "top of 20," it seems that the W/K QRM has proven just too much for stations outside of the U.S.A. If we ALL use the lower 40 kc., the position will quickly become workable and it will not be very long before we will be enjoying contacts with the U.S. under similar conditions as prevailed before we "lost" that top 50 kc. I must say I was amazed to hear a W6 asking another W, "Why does the DX want to migrate to the low end?"

TWO-TUBE S.S.B. PHASING RIG

Or Get Your Friends' Feet Wet With 7 Watts!

Leo Boisvert, W1HIE, has come up with the end-all of simplest sideband transmitters, this man, is the least! We have the S.S.B. A.R.A's. journal "The Sidebander" (Feb. '61) to thank for this information.

This little rig is clean cut and wrung out to the very minimum of parts that will put out a clean s.s.b. signal. First off, the r.f. signal is fixed phased and so is the audio, but due to the fact that we are using a carbon mike with its limited audio band pass, it really works out fine for fixed phasing.

Measurements were made in actual operation and we came up with these figures:

1,200 cycles—30 db. suppression
2,500 cycles—20 db. suppression
500 cycles—15 db. suppression.

This may not be commercial s.s.b., but it sure beats the pants off d.s.b.!

Construction of this unit requires no special parts and at that, the percentages are real loose. It is only necessary that the tuned circuits resonate at the operating frequency and that the audio coupling transformer have a 600 ohm output to the diode modulator. For this purpose I have used an ARC5 rx output transformer.

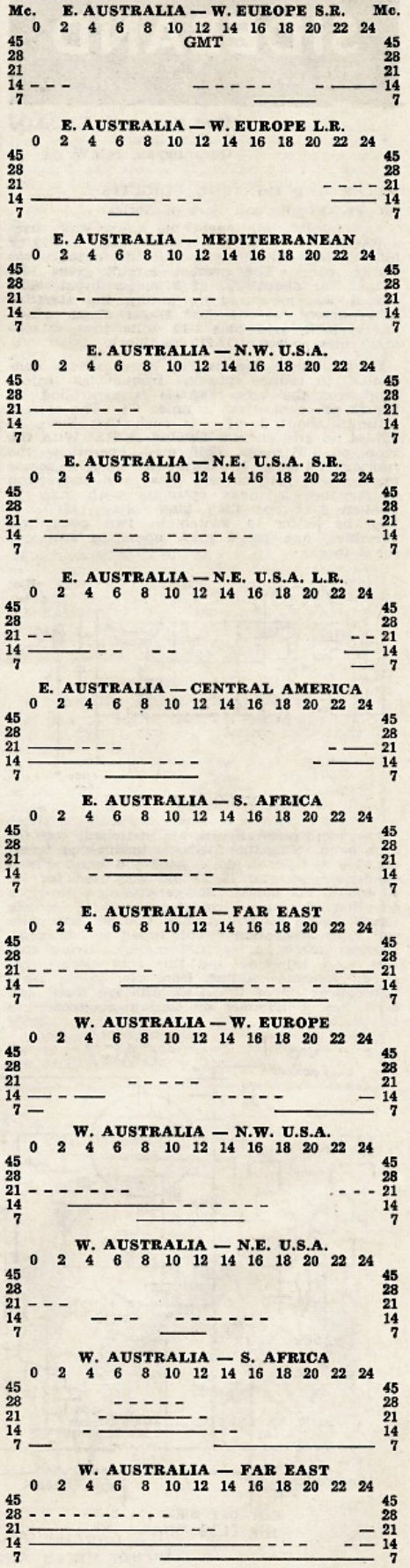
It is important that as little as possible of the xtal oscillator voltage get into the fields of the coils L2-3-4. Keep the osc. coil L1 as

(Continued on Page 15)

PARTS LIST

L1—35 turns No. 30 wire. Link, 12 turns No. 30 on cold end.
L2—16 turns No. 26 wire. Link, 6 turns No. 30 to centre of coil.
L3—35 turns No. 30 wire. Link, 6 turns No. 30 on cold end.
L4—50 turns No. 28 wire on ½ inch coil form, slug tuned.
Coils L1, L2 and L3 are wound on ¼ inch coil forms, slug tuned.
All capacitors marked "/M" are mica; all others can be ceramic.
Cx—350 pF. for 75 metres. One half capacity doubles frequency.
T1—Carbon mike to grid transformer.
T2—Plate to 600 ohms.
Ch2 or 3 pie chokes (not critical).
D1—1N38, 1N64 or most any diodes providing they are matched.
R1, R2—1,000 ohms, carbon pots.

PREDICTION CHART, JULY '61



D X

Alan Shawsmith, VK4SS
35 Whynot Street, West End,
Brisbane, Qld.
Phone 4-6526 (7 a.m.-4 p.m.)

Here on the middle East Coast on 7 and 14 Mc. at least, conditions have been pretty fair, although the L.P. circuits to East and West have been mostly out.

On the majority of days, the 14 Mc. band has been open East from about 0400 hrs. G.M.T., in a wide sweep, from KL7 to South America. While around 2000-2130 hrs. G.M.T. the short path to Europe is still good, but does not last long.

7 Mc. has opened up, for a while, around 1000-1200 hrs. G.M.T., on many nights, with DX from North and South America; also, the Europeans and Asians can be heard around 1930 hrs. G.M.T., but very hard to work.

While most of the more common prefixes can be heard and worked daily, there has been a marked absence of anything new or hot.

NEWS AND NOTES

ZD7SA, St. Helena, has been heard at odd times at approx. 0700 hrs. G.M.T. with a fairly strong signal around the middle of 14 Mc. (Workable East path.)

TI2PZ, Costa Rica, also fairly regular, in the early afternoons and sometimes in the mornings on 14 Mc. around 2000 hrs. G.M.T., but now hard to work at later times. He QSLs smartly.

ZM6AB, British Samoa, also 14 Mc., was heard once or twice, wading through long queues of Yanks, around 0430 hrs. G.M.T.

5U7AC, Niger Republic, could be heard at the start of the month around 2045 hrs. G.M.T., but now conditions are against a good QSO at this hour.

DU9BSP will be QRT by now, but if you worked him I reckon he would be OK for W.P.X.

Has anyone worked KG1AA (Greenland) on 14 and 21 Mc.? I have heard several prefixes calling him, but so far he's not audible here. Time 0430 hrs. G.M.T.

UA1KED, Franz Joseph Land, is active on 14 Mc. around 0400 hrs. G.M.T. I hear him getting very good signal reports, but the time of his operations would make it almost impossible to work him here on the East Coast. This also applies to KG1AA.

Most must have heard and many worked VK9GP, but in case you don't know, he is on Norfolk Island and a new country.

5N2RSB is still going and was heard during the month on 14 Mc., around 2030 hrs. G.M.T., in the middle of the usual dog-pile.

Ex-VK0BH is off to 9M2 land soon for two years. You can QSP any cards for him to BERS195—likewise with ex-VK0GB and ex-VK0ED.

Ex-VQ8BBB is now permanently in Mauritius and hopes to have a new VQ8 call sign shortly. He is with the Navy there (see QTH).

ACTIVITIES

Laurie **VK2AMB** lists the following—7 Mc. phone heard: VK9GP (Norfolk Is.); 14 Mc. c.w. wkd.: I1XK, GI3CVH, LA5HE, UQ2AE/M; 14 Mc. c.w. heard: UP2KAF, VR3L. QSLs received: CM2QN, CO2MS, VQ1HT, VS9OC, ZL-4JF, LA1NG/P, LA3SG/P (Jan Mayen), VS9MB, OA3D, 5A5TA.

Ken **VK3TL** notes the 20 mx band is really opening up in the late afternoon for W land. Quite a few Europeans can be heard, if you can get through the QRM, hi, hi, and this made the month a quiet one. Worked on 14 Mc. c.w.: DJ4DN, DJ4VK, DL1XZ, DL7EN, EA1GZ, G2FAS, G3ASG, G3HTU, G6QB, GI-3NSM, GI3OQR, HB9VL, HB9ZY, I1WBX, LA-5VH, LU0AC, SP6OM, UA1HA, UA6LD, UA9BZ, UA0KDA, UA0KFG, UA0KID, UA0KFM, UA-0LU, UI8KAA, VP9EP, XZ2BB, YO6XI. Worked on 14 Mc. phone: CN2BK, ZE7JR. QSLs received: BV3HPT, AP2MR, BV1US, IT1TAI, JZ0PH, JZ0PM, MP4MAH (Oman), LU3WU, SM3XJ, UA3KND, UA9KOA, UA0EH, UA0UU, VK2FR (Lord Howe Is.), VP6PV, VQ8BM, VR-1F, VR2BC, VS6EQ, OA4DT, VS9MB, VS9OC, XW8AL, XZ2TH, YN4AB, YU1EH, ZB2AD, ZK1AR, ZS5OE, ZS6ARI, 4X4JU, 4S7EC, 5A5TF.

Hal **VK4DO** has not been very active during the month and finds Europeans over the long path ceased to be heard, and 21 Mc. band dead when he listened. 14 Mc. c.w. hrd.: W, K, KH6, KR6, JA, KA, I15BR, LA7RF/M, ZK1AR, ZM6AB, UA0KFM, UA0KKS. 14 Mc. c.w. wkd.: W, K, KH6, JA, VE, CT1DJ, DJ2RE, DJ5PN, DL1AM, DL1EE, DL1SO, DL1YA, DL1VW, G3ASG, I1DOL, LA1Y, OA4ED, OE3UR, OK-2BBI, OK1NR, OK1WD, SM5WI, SP6ART, UA0ZB, UA0KJA, UA0EW, UA3DV, UA6LI, UA6LD, UA6MK, UB5MZ, UQ2AE/MM. 14 Mc. phone hrd.: W, K, KH6, KR6, BV1USE, VE6, VE7, VR4CB. 14 Mc. phone wkd.: W, K, KH6, VE, YV, VR4CB.

Eric **BERS195**, although absent from home for half the month in VK5, lists the following—7 Mc. c.w.: DM3RDA, JA2UJ, JA3AQN, JA-8AEB, OH7NF, OH9NG, UA3KKB, UA3KQD, UB5ZV, YU5FQR, YU5HUV. 14 Mc. c.w.: BV-1USA, FB8XX, FB8ZZ, HC1FG, MP4TAC, PY-7MP, UI8AE, UO5KAB, VR2DK, YV3CD, 4X4FU, LA6CF/M, LA7RF/M. Eric received the following QSLs during May and included in the list is VQ8BBB, which brings his total confirmations to 269. (This is truly a worthy score. Congrats, OM.) They are EA8BW, FA9VJ, HV1CN, KR6IR, KW6DG, LA1LG (Jan Mayen), MP-4DAA, TI2WA, UJ8KAA, UJ2KCB, UR2AT, VP4WI, VQ8BBB, VS1HA, VS6EQ, ZS6AYS, 4S7EC, 5A5TA, SM5KV/9Q5.

Yours truly managed to work on 7 Mc. c.w.: KV4CI, VE7AOK, YV5DE, YV5ANT, YV2BJ, OA4FM. 14 Mc. c.w.: VP5CH (Grand Turk Is.), VR3L, ZC4PB. VP5CH air mailed his QSL.

The above activity reports are nowhere near sufficient. Let's have some s.s.b. news and has anyone worked anything of note on 21 and 28 Mc. during the past few weeks?

ADDRESSES

5A5TA—John Garrett, P.O. Box 638, Tripoli, Libya.
VR3L—Via G3MKG, C/o. R.S.G.B.
VP4WI—C/o. Don Compton, 1712 Merritt Paric Dr., Orlando, Florida, U.S.A..
Ex-VQ8BBB—H. Figon, La Visitition, Vacaos, Mauritius.
XZ2BB—P.O. Box 449, Rangoon, Burma.
3V8CA—Syd. S.. Wagoner, C/o. U.S. Embassy, Tunis.
VP5CH—Charles H. Heisner, Grand Turk A.A..F.B., British West Indies; or G.M.R.D., P.O. Box 4187, Patrick A.F.B., Fla., U.S.A.; or via K4FOJ, A.R.R.L.
VQ9HB—Via R.S.G.B.
FR7ZD—Guy Hoarau, 600 Tampoon, Reunion Is.
FQ8HO—Via R.E.F., B.P. 26 Versailles, Seine et Oise, France.
CR7LU—Lucia S. Santos Tome, Manica e Sofala, Beira, Mozambique.
TI2PZ—Jose A. Zuniga, Box 1816, San Jose, Costa Rica.
TI2WA—Jack Hangen, Box 45, San Jose, Costa Rica.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK5AB ..	45	256	VK3ATN ..	26	204
VK6RU ..	2	253	VK6KW ..	4	202
VK6MK ..	43	248	VK4HR ..	12	192
VK4FJ ..	21	221	VK4RW ..	23	184
VK3WL ..	14	211	VK3BZ ..	3	176
VK3AHO	51	211	VK3GB ..	50	171

C.W.

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK3KB ..	10	289	VK4HR ..	8	218
VK3CX ..	26	279	VK3XU ..	48	213
VK4FJ ..	29	264	VK7LZ ..	17	212
VK3NC ..	19	236	VK6RU ..	18	211
VK3FH ..	15	226	VK3YL ..	39	203
VK3BZ ..	6	222	VK5RX ..	23	195

Amendments:
VK3ARX 66 153

OPEN

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK2ACX	6	289	VK3BZ ..	4	231
VK4FJ ..	32	267	VK3HG ..	3	225
VK6RU ..	8	265	VK3WL ..	45	225
VK6MK ..	74	252	VK7LZ ..	23	223
VK3NC ..	77	238	VK3XU ..	61	221
VK4HR ..	7	233	VK6KW ..	13	216

Amendments:
VK3AHO 76 215

SUMMARY

Prediction for July: Not so good, over all.
Conditions in May: Did not appear to be up to the Prediction Chart. The Graphs of L.P. circuits, in particular, were most generous to us of low power, or maybe, we need better receivers.

The effort of David VK3QV on 29 Mc. phone, and that of Don L2022, was surprisingly good. The times I listened on 21 and 28 Mc. there was no sign of Amateur activity. Unfortunately, the Tropical Regions of VK land, where one would expect DX perhaps to be a little better, on the high frequency bands during the winter months, has few active Hams. Unless Old Man Sol really blows a gasket or two, I feel July, on the h.f. bands, will be crook. However, the spice of DX lies in its elusiveness and uncertainty, so keep listening, just in case.

14 Mc. band should be good to the East in the afternoons and fair for a short period in the mornings to the North and West. Keep your ear on 7 Mc. around 1030-1130 hrs. G.M.T. for South America, and if you think you are good enough to bust through about three layers of European QRM, some DX should be possible on 7 Mc. in the early morning.

Long Range Prediction is for many, many years of Low Solar activity (approx. forty years). This needs some thought: it means that the higher frequency bands will be mostly out; it means a migration to the lower frequency bands and with added European QRM on 7 Mc. now, I can't imagine what this band will be like. Also, there will be need for better antennae and it creates a paradox, insomuch as those Hams who are contemplating more expensive gear, may not, in practical terms, realise the worth of it. Those who want to stay on 21 and 28 Mc. will have to snoop much longer, for much less.

This month no "hot" DX news is to hand from W4KVX, whose printing press is out of action.

I would like to thank John VK2ZR for sending me the notes and wish him good luck in his future work. We will miss you, John, as there is never enough VK activity, and I, for one, found your notes very valuable. My thanks also to VK2AMB, VK3TL, VK4DO, and BERS195.

Did you hear about the Ham who asked his "sweet young thing" what she knew about Milliwatts? "Oh yes," she responded brightly, "I know her husband. He's a pug and a wolf." "Her husband . . ." "Yeah, Killer Watts."

73, Al, VK4SS.

☆

SIDEBAND

(Continued from Page 13)

far from the other coils as possible to avoid trouble in nulling out the balanced modulator. The diodes must be matched in pairs as to forward resistance. Don't think that by adding an extra audio tube and xtal mike that you will improve the rig. The secret of the quality is in the carbon mike and its limited band pass; and added band pass in the audio section will cause the fixed phasing to go too far out at both ends. If you want to build this rig for use on any of the other bands you can do so by making the tuned circuits resonant at the desired frequency but keep in mind that the r.f. phasing unit will have to be changed to present about 100 ohms to the balanced modulator and the link. This means that you will need only one half the capacity of Cx for twice the frequency.

Tuning up the rig is simple; unbalance one pot and tune all coil slugs for maximum output. Tune the out pie network L4, and output capacitor for maximum. Then adjust the balance pots for minimum output. You are now in business and ready to be called a liar for it is not possible to build a phasing rig with only two tubes! Or is it?

☆

AMATEUR ARTIST

Amateur Radio is not the only interest which absorbs the spare time of Arnold Holst, VK3OH. He is also an expert artist with oil paitings in which his ability extends into almost every field—portraiture, nature study and landscape.

Arnold Holst recently presented to the Federal President of the W.I.A. an oil painting of the Victorian Division's building in Victoria Street, East Melbourne, done from a vantage point on the nature strip opposite the building.

Although, because Arnold is an amateur, we call him an amateur artist, his paintings are definitely in the professional field, and his painting of the VK3 rooms will always be a reminder of his ability in the world of art.

S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

On Sunday, 17th May, 18 members of the VK3 Group visited the High Park Receiving Centre, 3 miles outside of Kilmore. We had a wonderful time; there were AR88s, a 51J, a Super Pro. and a G.E.C. general-coverage rx. The antennae were rhombics, huge things, 70 ft. high, and a lone T type. The gang and I will never forget the sight we saw and the knobs we twisted.

I am sorry that all the VK s.w.l. couldn't see it. One's mouth drooled. High Park is the A.B.C's. overseas monitoring centre; it's from where you hear the Test Cricket in England. Our thanks go to Bert VK3KU for having us and for showing and explaining all those wonderful receivers. A special thanks to Bert's XYL for putting on a lovely afternoon tea, and to the P.M.G. Dept.

It will not be long now before the two S.w.l. Awards will be official; I heard last week that they are before Federal Council.

On Friday night, 2nd June, 11 of the boys went to see Radio Lyndhurst, the A.B.C. Regional short wave stations. Once again they came away with more knowledge and had supper again. I thank the P.M.G. and their officers. The VK3 Group thank Ian Woodman for the sterling job of arranging these visits; you Ian are very much appreciated by the Group.

I will have shortly for sale, Russian Call Books, f.b. for you keen s.w.l'ers. Price is 10/- and 20 will be available. First come, first serve.

All the VK gang wishes to congratulate Charles Thorpe for winning the Listeners' Section of the Ross Hull Memorial Contest. Charles hails from VK4, no wonder he won. Charles Aberneathy took the VK2 award—congrats. Chas., and yours truly the VK3. Mac Hilliard is doing a sterling job on the VK3 Sunday morning broadcasts; keep it up. Also his new 10 transistor communication receiver (portable) is giving him very good results.

CORRESPONDENCE

Thank you the following for your letters: Barry Thomson ZL149, DX37A, Doug Allen, new Sec. of VK2 Group (congrats. Doug), Chas Aberneathy, Dave Jenkins, Mac Hilliard, Craig Cook, Afton Westcott, Peter Field, Peter Drew, Geoff Sharp and Nev. Fisher. Thank you fellows. Barry Thomson was the ZL s.w.l. who came to Shepparton with us at our Convention; well he's back home in ZL land and he's very happy to be home working. He says his countries score has slipped rather badly, he's only got 244 countries confirmed, last four being UL7JA, UO5BK, 9U5MC, and MP-4TAC; not bad eh? Barry tells me to look for HB9TL on 7th June; he is going to a country between Kuwait and Saudi Arabia and will operate s.s.b. using the call 9K4A. Barry sends his regards to the VK3 gang and especially 3ZGD and wonders if he is still going to ZL land for his holidays.

Doug Allen L2215 writes his first letter to me as the new Sec. of VK2 Group. Hope all goes well with you and the Group Doug. He has a mighty fine set-up at his QTH and the following is the line-up. Main rx AR7 with slight mod. plus a Q5er i.f. strip inserted between 4th i.f. 455 kc. and the 6G8 detector. The Q5er is less b.f.o. and det./audio and feeds 85 kc. from 3rd i.f. into AR7 det. and diode load. Original 4th i.f. 455 kc. connections, along with 455 kc. b.f.o., feed into input of Q5er and a.v.c. The a.v.c. is wired to the Q5er on same lines of AR7. The modifications of the AR7 include replacing 1st i.f. 6U7 with EF39/VR53. No alteration save earthing pin 1 is required, gain, 600 gm. higher, added one only 100 kc. xtal calibrator, ex two-in-line rx. Result, 1 x 13 tube plus power supply, AR7 with double conversion, s.s.b., xtal calibrator. Doug also has a BC455 7 Mc. rx with a Hallicrafters S53 and a SCR522. A mobile rig is of a Pye TRP1 transceiver using a type 34A generator supply and a 12 ft. centre loaded whip. At his home in the Blue Mountains, the antennae are a 7 Mc. half wave dipole; half wave 7 Mc. long wire, both up 35 ft. at angle of 80 degrees to each other, and they feed into a switching panel. Well that's mighty nice, Doug, am sure quite a few of the boys will be interested to read that.

Chas. Aberneathy; he's a nice guy. Tells me he's sent out 202 reports and cards in the past 12 months, ending 30/4/61, and that completes his first 12 months as a listener. In that time he has received 16 countries confirmed, plus 55 cards received; he was fourth in the R.D. Contest last year listeners' section, and first in the State award of the Ross Hull Contest this year, and he's happy with the results. Keep up the good work; by the way, he has a very nice helpful daughter, Joan, she helped him put up his antennae and she's got brains, too, have just read half a page all about her. Look after him Joan, he's good.

Dave Jenkins, of Orbost. I want all his scores for the DX ladder, but I have to wait as he's busy building a transistorised converter which is well under way with 10 coils wound and all the parts mounted. It will be plug-in coils which he prefers. It's xtal controlled with expensive xtals, such as for 3.5, 7, 14, 21 and 28 Mc. It feeds into a b.c. rx, but later will build a transistorised b.c. rx. It will have mixer and osc. with the one transistor into a transistor regenerator 455 kc. i.f. The latter will be as good as (he hopes) two i.f. stages and a b.f.o. will give a single signal selectivity effect for c.w. reception. A germanium diode will be used for the det. and that will feed into the transistor audio stage. Also on the chassis there will be room for a 2nd i.f. stage and b.f.o. coil in case the regen. i.f. is no good.

Dave uses a three dipole antenna for 14, 21 and 28 Mc., it consists of three separate dipoles each fed with the same 72 ohm feeders (should use coax, but uses ribbon). He has one pole up, the centre of the three dipoles is at the top and the ends come down semi-vertical. Each one favours Europe, i.e. broadside on. It is necessary, Dave goes on to say, that one must have a fair angle between each antenna and to have them fairly tight to avoid shorting, unless insulated wire is used. There is no reason why two more dipoles shouldn't be used in addition, one for 80 mx and one for 40 mx. He gets good results with his on 40 mx and by using one side of it, it works f.b. on 80 mx.

A letter to hand from our worthy President of the VK3 Group, Mac Hilliard. He writes that after seeing Bill's (3ARZ) set-up one night, Mac has decided to re-organise his shack. The first project will be to get well organised on 2 and 6 mx, so he's looking around for a 6-9 Mc. Command rx and will feed his new 2 mx converter into it and he hopes 6 mx. Then he's going to try rotating his beam from the shack (lean out of the window, Mac., and use your paws). Mac heard Bill's converter (6 mx one I presume), he realised how poor his is, so Mac is going to properly organise himself on the v.h.f. bands. I wish you success.

Craig Cook, with Kevin 3ARD, on 31/5/61 at the Oakleigh Technical School (during their Education Day), worked on the hobbies display. Craig put his Marconi and one of his friend's AR8, a three valve regen. 15 mx plus a 2 mx converter. 3ARD went on the air at 3 p.m. and 7.30 p.m. for the boys' benefit. Kevin worked K2JSO and K2IXP in the p.m. Most of their trouble was QRM from electric trains and amateur photographers at the display, but Kevin mentioned the schools' display to them. Craig says thanks very much Kevin for your effort. A 15 mx rx will be in use shortly that Craig is building.

Afton Westcott, of VK4, found little or no activity on 14 Mc. during week days now. From last August, Afton has sent out 330 cards and he is very satisfied with the results. At the time of writing (26/5/61) he has 48 countries confirmed, heard 157 and 25 zones confirmed. Jolly good work Afton, you sure went past a few in the DX Ladder.

Peter Field, of Elizabeth, A.S., has logged a hefty fist full of stations of late. During his school holidays he passed through VK3 to VK2 to visit some local Amateurs there. He has just got a RF26 converter going on 6 mx, he's logged 30 stations in two weeks. Peter is another s.w.l. that was knighted by W4TK.

On the 5/5/61, the night the Ws put up the space capsule, Peter listened for two hours to K4ONM on 14 Mc. s.s.b. re-broadcasting the space flight.

Peter Drew, L6021, of Wedlands, W.A. He is very interested in the forthcoming contest and says it's about time as it's too far between R.D. Contests. I agree Peter. He sent off a list of eight Elizabeth stations received by him to 5FY, and hopes to obtain the Elizabeth award. Says 20 mx is bad at his QTH, but best times of listening are 0500 to 0900 G.M.T., and 1100 to 1300 G.M.T., and the bands seem only to open about once a week. He heard an SM6 on 80 mx, but low and behold, he was /MM 200 miles south of VK6, running 680 watts!

From the Apple Isle, down south, comes a letter from Geoff Sharp. He's only been active s.w.l. for 12 months and listens to both Amateur and s.w. b.c.; he's heard 40 countries on b.c. with 32 confirmed on the Amateur bands, has heard 12 countries with 6 verified plus 42 cards and 3 letters from Amateurs. Geoff uses a No. 19 set, 2-8 Mc., of six tubes and a five-valve d.w. set, also a 20 mx converter and pre-amp. He's rather isolated, being 200 miles from Hobart and has nobody to talk to and discuss activities. This boy is very keen, he was down in his shack at 5 a.m. the other day and picked up three new countries on the 40 mx band—Pakistan, Monaco and Bulgaria. He then asks me about report forms, a QSL card and any international DX clubs. Also a circuit for a converter suitable for a No. 19 set, 2-8 Mc., as he is not happy with his present converter. Can anybody help him there? If so, his address is Geoff Sharp, 30 Josephine St., West Ulverstone, Tas.

Now for Nev. Fisher of Oatlands; he's 18 years of age and works in the R.I's. Dept. in Hobart. Nev. sent me some beautiful coloured photographs of his shack and rx; they were beauties. He's erecting a 7 Mc. ground plane antenna. The radiator (33 ft.) is being mounted on a 40 ft. pole with the bottom of the radiator 20 ft. off the ground. Other projects include a squelch circuit for the rx, an antenna coupler, 288 Mc. rx, and a frequency meter, plus a 3 el. 14 Mc. beam; he's not busy is he, just kidding us, hi.

They have 12 new members in the Group down there and they are busy keeping them entertained and getting them gear, etc. A c.w. class has been started in the Group with 7GV as the instructor (that's what the VK3 Group is going to do, too) and a tape recording by Mike 7ZAV/7007 (what's on the tape, fellows?), and visits are on the agenda for the next couple of meetings. Nev. sent me a photo of your rx and ant. for showing on this page. I am sure all the boys will be interested. Next month I'll tell what gear the VK7 boys use (receivers).

F/O. Len Cook, of Darwin, is interested in being the first s.w.l. in the N.T.; so very shortly he will become a member of the S.w.l. Group under VK5. His equipment will consist of a Quad II. a.m. tuner through to a S22 control unit plus a power amp. He got the bug off Chuck 8TB.

DX HEARD

40 mx: Peter Drew, L6021, c.w. heard: Ws, UA0KID, JA8YZ, JA4AJ, JA3CGY; phone: Ws and a weak CE in Chile. The Ws seem to be coming through fairly well with QRM and QRN.

20 Mx.—Peter Drew, L6021, phone: OD5BU, FB8ZZ, VR1G, FB8XX, 9M2DQ, UO5PK, OK-1BK, YV5ACV, ZE7JR, FB8AA, VP6PV, YV-5AHR, SP5BT, OE7CH, FB8CO, ZE8JJ, VP9VV, F8UI, VR4CB, CR7CI, 4S7GE, UA9KAG, VP-9WB, KH6DKS, OE2UE, KW6CGA, EA3JE, KA8RH, XE1FB, BV1US, SM5WI, CR7GF, FR-7ZD, FB8BC, plus plenty of Ws, Gs, ZLs, VEs, ZSs, VUs, and I1s. Afton Westcott (VK4), a.m. phone: 4S7EC, G3NNT, HK3LX, HM1AA, OD-5AY, PK2HT, SM5DLA, VO5PK, VK0FZ, VU-2SR, K5THB, W9BNH, XE1HC, ZS6JL, F8XT, KH6BPF.

21 Mc.—Afton Westcott, phone: CT1YE, EP-3HS, ET2VB, GI4RY, I1PAC, 9K2AY, OK3KGI, UA0LO, VS1DN, ZE7JR, ZS1DC, MP4BDC, VP-9APH, 9U5PD, PK2SPT.

28 Mc.—Afton again: W7AAY, ZS1KW, ZS-6AXI, ZE2JF.

50 Mc.—Afton: JA1EDO, 2ATQ, 2AWG and 6ZI.

DX LADDER

		Con-firm.	Hrd.	Zon. Conf.	No.of Cards
L3042	Eric Trebilcock	268	277	40	6853
L3074	M. Hilliard	57	195	24	150
VK4	A. Westcott	48	157	25	—
L3055	M. Cox	31	198	19	89
L3072	T. Heywood	16	90	11	21
L2211	C. Aberneathy	16	51	15	55
L5031	C. Hutchesson	7	96	6	18
L6021	P. Drew	13	156	11	24
L5039	P. Field	8	118	—	—
L2057	R. Wood	3	3	3	3
L2159	R. Thompson	2	73	2	2
L2215	D. Allen	2	18	—	5
L2052	T. Mills	2	14	2	2
L2214	J. Walker	1	8	—	1

Well, the ladder has grown again in size. The important column is the countries confirmed. Those who have no countries confirmed will not appear in the ladder.

Warning.—If there are no alterations to any of the above scores, each three months they will be omitted until I am advised. Sorry, but that's the way it is, remember we only have one page.

Also I would like to say that I write more than you see in print, but it is omitted because of space. So I repeat, no alterations in ladder, then you are out. 73, good DX, Maurie L3055.

V H F

David Tanner, VK3AAU
17 Wolseley Street,
Mont Albert, Vic.

This month, as you can see, the notes are arranged a little differently from usual. Any comments, good, bad or otherwise would be appreciated.

Six metres has once again lapsed into the usual winter quiet, although one or two openings have been reported. On March 4 2ZCI and 2ZGM worked 4NG. The 24th May saw 2ZDM in contact with 7ZAI, 7ZAO and heard by others. Apparently there was very little activity at the time. On May 14, a VK2 full call was heard in Hobart at about midday but no contact made. 6 mx activity in all States seems to be at a very low ebb except perhaps in VK6. Roy 6RY, reports that HLKA and the Russian t.v. below the band have been in weakly at times but no JA openings yet.

VK0VK at Wilkes in the cold south has an automatic keyer to run a 100w. rig beamed on the U.S.A. Unfortunately the frequency is not given but we hope to have more details soon. K2QXG may be able to supply some information.

Two metres seems to be the band at the moment with quite a few stations reporting contacts of further than just over the back fence.

Hugo 2WH worked Graham 2ZXY and Paul 2ZPJ portable at the Gib near Bowral, a distance of about 155 miles on Sunday, May 21. 2ZGM says that others should be able to find plenty of contacts in the south west if they care to try from the hills around Sydney. 3ZER is still running his nightly skeds between Ballarat and 5AW in Penola. Ron was heard complaining recently about the consistency of the signals, seems as though the only time they don't make a contact is when one of them is not on. Ron has quite a large number of stations both in VK5 and VK3 within about 150 miles to the west and has apparently worked most of them recently.

Garry 5ZFM is looking for VK3 contacts each night at 2000 hours. Garry has passed the c.w., so the use of c.w. might help to find the rare ones. The week-end skeds between 6BO and 6WG have been going on with quite good results. On Monday, 29th May, 3NN was heard in Melbourne at good strength by quite a few but Herb shut down to watch t.v., much to the delight of several local eavesdroppers.

The boys in VK7 seem to be well on the way to proving the old story, that any stations within a hundred miles or so can make contact as long as skeds are kept and the gear is good enough. On May 28, 7ZAO was heard by 7LZ and 7PF and carriers believed to be 7LZ and 7PF have been heard by 7ZAI, 7ZAK and 7ZAO. The sked time is Sunday, 2000 to 2030 hrs. and the Hobart gang are inviting participation by any of the VK3 boys who may be interested.

Geoff 2ZGM at Ungarie has quite a few active 2 mx stations around him in the Forbes to Tumut area. He has a 4X150G final under way and would like to hear from people to arrange skeds. Monday night at 2000 hrs. is a popular time in his area, but calls on the hour and half hour almost every night could produce results. 2ZBP should be producing a better signal in the not too distant future as he has stacked long yagis on the drawing board. Eric 2ZEC in Griffith has a long yagi up which has made a remarkable improvement to his 15w. on 2 mx.

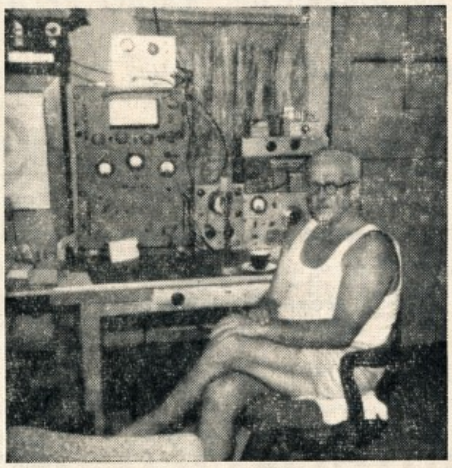
VK5 activity on 2 mx seems to be concentrated near the VK3 border with the following stations reported by 3ZER: Rod 5ZCD at Mundalla on 144.48, Tony 5ZAI at Bordertown on 144.3, running 30w. to a 12 ft. yagi; also Bill 3ARM at Serviceton North on 144.72 and 3SV on 144.3 at Castlemaine. 3NN at Yanac, 3ZLJ and 3FO at Maldon and 3JW at Bendigo are also active and quite a few of these have been heard in Melbourne.

Viv. 5ZCC and Noel 5ZAS are building gear for 2 mx and Neil 5AW is believed to be organising a v.f.o. possibly for mobile or portable use.

7ZRJ on 144.4 is expected on in Launceston quite soon. An improvement in equipment is noted in Hobart with low noise receivers and long yagis (how long?) are the rule.

3JW at Bendigo on 144.18 is on every evening at 7 p.m. working 3ZCJ and other Melbourne stations, once again showing that a hill in the way, this time Mt. Macedon, is no barrier to signals. Other new ones in the city include 3ZJ, 3ZDU, 3AON, 3ZLT on 144.65, 3ZJW, 3AEV and 3ARZ, mostly running 522 tx's. 3ZLG on 144.8 at Belmont near Geelong also heard.

New v.h.f. stations in VK5 are 5ZCH in Kimba and 5ZDX, both on 6 mx. 5ZFG has been experimenting with d.s.b. on 6 mx, but seems to have abandoned some. Maybe he's lopping off one sideband. 5ZDV at Elizabeth is quite active, also on 6 mx.



Bob VK4NG (Rockhampton, Qld.) is one of the best known v.h.f. operators in Australia. On 50 Mc. he uses 60 watts input and his antenna is a four element yagi.

1296 megs. is apparently becoming quite popular in VK2. Barry 2ZAH has his tx and rx working and has had one-way contact with Dick 2ZCF over a five-mile path. Dick should have his tx going by now. Operation on this band is at the high end, crystal controlled, multiplying from 144 megs. The 2ZAH converter is similar to one in March "QST". It's quite a simple device using a crystal mixer and also a crystal diode multiplier.

The 10,000 meg. band may also receive a shot in the arm as a number of RT181/APG-30 frequency converters have appeared. Bob 2ZAR has evolved a conversion of this unit for use as a rx. Anyone requiring information should contact him.

5AW is now running 80w. to his QQE06/40 on one metre so it looks as though I'll have to get my own powerhouse back on the job. The 288 meg. here runs a 6/40 final also at 80w. Exciter stages are three 5763s followed by a QQE03/20 tripler. Drive to the 6/40 runs over 2 mA. through a 47K grid leak. The antenna to be used is a 24 ft. long yagi with 23 elements. The same tx and antenna have been used to work 7LZ and nightly skeds were successfully kept with 3ALZ a couple of summers ago between Melbourne and Maffra which is also a rather obstructed path slightly over 100 miles.

Stabilised gear is in use at 5ZDZ and we note that VK5 has seen the light and changed to horizontal polarisation. 5ZFQ and 5ZBI are also active on 288, the latter with a m.o.p.a. Stabilised gear is also being used very successfully on 288 in VK6 and the mod. osc. and super regens. have faded away.

Several of the VK6 gang are also operating on 576 megs. and 1296 looks like finding a few takers too. Maybe some DX via the moon is being contemplated.

New stations on 2 mx in the deep south are 7ZAS, 7ZAZ and 7ZAX with more to come. A number of communicators are being constructed by the Hobart gang and they hope to be able to interest some newcomers in v.h.f. through these units. 7LZ is still chasing his 100 VK3 QSLs, but still has a way to go. Col and Peter 7PF recently visited the southerners and spurred them on to greater things.

Fox hunts and scrambles are still quite popular, the former being quite a good way of introducing the YL or XYL to the lighter side of the hobby. Intending participants should be warned by the experience of John 3ZAI who has been neatly caught (by a YL). Congratulations?

Additional rules for VK3 scrambles to commence in June are as follows: Six mx: one point per contact, and on 2 mx: one point for city-to-city contacts and three points for city-country contacts. Separate scores to be kept by city and country stations. The control stations for the first period will be 3ARZ on 144.5 and 3ZGP on 50.26. Neither control station will participate in the scoring.

COMING EVENTS

VK2 Group July meeting on Friday 7th will be a forum on v.h.f. mobile with Jim 2PM as chairman. August meeting on Friday 4th with a lecture by Barry 2ZAH on practical 576 and 1296 meg. gear and a demonstration of equipment. Night fox hunts on July 19 and August 16. The mid-winter contest will be held on the week-end of July 8-9 from 1900 hrs., Saturday, to 2200 hrs. Sunday. All v.h.f. bands, cross-band operation permitted, stations may work each other every three hours, one point per contact. Logs to VK2ZAH and VK-2ZDP. The South-West Convention is not so far off so a little mobile gear should be in the course of construction for that event.

Next VK3 meeting on July 19. Field day rules will be finalised and the agenda item will be "Mobile Equipment". See you there. VK3 slow morse transmissions are now originating from 3ARZ on 144.5 each Sunday night from 7 p.m. Relay on 50.16 is by 3QV. A Wheatstone tape machine is used to ensure good sending and m.c.w. is used to enable the people with simple receivers to copy it.

The next meeting of the VK6 V.h.f. Group will be held on 24th July and a good attendance is looked forward to.

That's all for the revised notes this month, new scribes please note the new address and my closing date of Friday before the 8th of the month. Thanks to 2ZDP, 2ZGM, 3ARZ, 3ZER, 4BZ, 5BQ, 5AW, 6RY, 6LS and 7ZAO for all the information.—3AAU.

Lance VK4ZAZ, another Rockhampton v.h.f. operator, who uses 120 watts input on 50 Mc. and a four element yagi.

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QUARTERLY EXAMINATIONS FOR W.O.C.P.

The Radio Branch, Melbourne, advise that, due to the increase in the number of candidates for quarterly examinations for Wireless Operators' Certificates of Proficiency, it has become necessary to re-arrange the dates for such examinations in order to distribute more evenly over the full year, work relating to the marking of papers, the notification of results to candidates, and the issue of certificates.

The new arrangements were introduced with the Commercial and Broadcast Certificate examinations in June, 1961, and the Amateur examination to be held in July, 1961, and they provide for alteration of the existing dates in accordance with the following table:

Examination: First Commercial, Second Commerical, and Broadcast.
Date to be held: The first Tuesday of March, June, September, and December.
Closing Date for Applications: The eighth day of the month preceding the month in which the examination is to be held.

Examination: Amateur and Amateur Limited.
Date to be held: The third Tuesday of January, April, July and October.
Closing Date for Applications: The twenty second day of the month preceding the month in which the examination is to be held.

NOTES

FEDERAL

RADIO FREQUENCY ALLOCATION REVIEW COMMITTEE

Federal Executive of the W.I.A. is aware of reference to possible changes in Amateur frequencies published in an overseas magazine.

Pending announcement by the Post Master General of the recommendations of the Committee, it would be in the interests of the Amateur Service to refrain from making speculative announcements of this nature.

"PROJECT NEEDLES" PLANNED FOR THIS YEAR

"Project Needles," the U.S. proposal to put into orbit a belt of dipoles as passive reflectors, is scheduled to be implemented this year. This was announced at the Second International Space Symposium in Florence, organised by the Committee of Space Research of the International Council of Scientific Unions (C.O.S.P.A.R.).

The intended orbit is to be polar and the dipoles ("needles") are to be of copper. The height of the orbit above the earth's surface will be 1,000 miles and the belt will probably remain near its original orbit for about a year. After that it will cease to be a useful reflector.

AWARD FOR G's.

The Mullard Award for 1960 has been made jointly to Enid Bottomley, G3OHB, and Graham Thomas, G3OGT. The Award Committee considered that "The fortitude and courage shown by Miss Bottomley and Mr. Thomas provided a fine example of personal service to the community."

They are both patients at St. Teresa's Home in Cornwall, one of the Cheshire Foundation Homes.

ARMY SIGNALMEN MAKE RECORD MARCH

Five Army Signalmen recently undertook a march from Bathurst to Ingleburn (N.S.W.) a distance of 130 miles and took 61¾ hours to complete the arduous journey in full marching kit order. They broke the existing record by 4¾ hours and were joined over the last 12 miles by Ken Scott, VK2XS, who had co-operated with the signalmen's unit, 504 A.S.S.U., last year in monitoring test calls from a mobile Army transmitter.

Of the Army signalmen's effort, Ken said, "Thank Heaven I was in the Air Force during the War and not in the Army". (At least the signalmen could not be classed as P.B.I.!)

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FEDERAL QSL BUREAU

The Malayan Amateur Radio Transmitters' Society has submitted the following proposals to the I.A.R.U.:

1. Power input should be restricted to a maximum of 250 watts to the final amplifier on 10, 15 and 20 metre bands.

2. C.w. operation should have a separate segment at the lower end of the 10, 15 and 20 metre bands as follows: 10 mx, 200 kc.; 15 mx, 150 kc.; 20 mx, 100 kc.

3. Traffic handling on the 10, 15 and 20 metre bands should be confined to c.w. except in cases of a National Emergency.

All QSL cards for the Island of Aruba, Netherlands Antilles (PJ2A—, PJ3A—, and PJ5A—) should be sent to the QSL Director, Aruba Amateur Radio Club. The A.A.R.C. will handle cards for all the Netherlands Antilles Islands, Surinam, Central America and the Caribbean area. The address is Aruba Amateur Radio Club QSL Bureau, P.O. Box 43, Seroe Colorado, Aruba, Netherlands Antilles.

HK3LX seeks phone skeds on the 7 Mc. band from 0730-0830z daily. He carefully tunes 7070-7100 kc. for calls.

Divisional Managers please note that cards for VK9GP, Norfolk Island, should be routed to VK3 where his father, VK3AOM, will attend to same.

Robb Gurr, VK9RO, is now attending to QSL affairs for VK9, since the departure of Russ VK9XK.

The Taiwan American Radio Club takes great pleasure in announcing the issuance of B.V. Award Number One to Mr. R. A. Catmur, VK5FY. Mr. Catmur's certificate, endorsed for c.w., was issued on 9th May, 1961. The W.I.A. and the Elizabeth Radio Club, of which Mr. Catmur is a member, take great pride in this accomplishment.

—Ray Jones, VK3RJ, Federal QSL Manager.

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NEW SOUTH WALES

MID-MONTHLY MEETING

The attendances at the mid-monthly meetings of the Division have improved greatly over the past few months, and an almost capacity house was present to see the slides and hear the comments of Bill 2EG illustrating the activities of A.N.A.R.E. in Antarctica. Bill, it will be recalled, has made two excursions into these regions, one to Macquarie Island and the other to Mawson, and was able to give the audience the benefit of his wide experience. The slides were of excellent quality and with his comments all were able to appreciate the hazards of life in those regions and to realise that the fellows on these expeditions are doing an excellent job for Australia.

Further meetings are being arranged and are held on the second Friday of the month at Divisional Headquarters, 14 Atcheson St., Crows Nest, and one such in July will be the playing of one of the many tapes in our rapidly extending library. Do not fail to be there at 8 p.m., an interesting and instructive evening is assured.

MONTHLY MEETING

Monthly meetings come and go over the years, and despite all our good intentions, some of the lectures heard recede into the background of our memory only to be recalled at some future date, possibly many years after. The lecture at the May meeting, however, was one which I doubt whether any of the large audience will ever forget, and was one which was full of the type of material which all Amateurs enjoy. Leo 2AC presented a discourse on Phasing-Filter Sideband Generators in a manner which left no doubt in anyone's mind that here is a sideband generator which appears to be easy to get going and which would be more stable than many of the phasing rigs in common use today. Accompanied by ample roneod circuitry, the information of the lecture was complete in every detail.

Following this feast, Keith 2BK gave a short talk on the new Barium-Titanate type of Filters which are now being developed here in Australia, and showed how they can be used, in fact had with him an example of the use of such filters.

The vote of thanks was moved to the lecturers of the evening by Wal 2SA. Five new members were admitted to the Division at this meeting.

CLUBS

A new Club has been formed at the headquarters of the 2/9 A.A. Regiment at Haberfield and will undoubtedly appear on the air in the near future.

The recently formed Orange Radio Club announces the acquisition of their call sign, VK2AOA, the transmitter being completed and operative.

All Clubs are invited to supply the Divisional Correspondent with information of their activities so that they may receive adequate publicity, which can only lead to increased membership. Remember the time lag in publication which is of course unavoidable, and have all information in to us by the first day of the month.

HUNTER BRANCH

Do-it-yourself lectures. This is the latest news from the Hunter Branch. I don't know whose idea it was, but the evening of 12th May saw this novel arrangement put into practice. The Branch meeting listened to no less than five of our own members giving practical hints and ideas. Those doing the talking were Keith 2AKX, 78 rx modifications; Stuart 2AYF, test and measurement equipment for 2 mx; Stan 2AYL, a practical frequency meter; Les 2RJ, Departmental requirements for mobile operation, and Gordon Sutherland, wave shaping with one control.

SILENT KEY

It is with deep regret that we record the passing of:—

VK4CU—C. W. Walker.
VK4HP—K. Hawkes.
VK6HT—H. A. Tarbotton.
VK6WH—E. A. Doddy.

The attentive audience included a welcome visitor, Bill 2CW and the following members and associates: VKs 2ZL, 2AQR, 2CS, 2XT and 2PZ; Helen Cowan and Messrs. Blyth, Forrest, Mullen, Finlayson, Stobbs, Gray, Munn and Foster. Those who could not be present were Varley 2SF, Harry 2AFA, John 2XQ and Tom Davis, Max McLachlan and Mac O'Brien. Even as I write this, I remember that one of the above names now is entitled to use a call sign. I have pleasure in introducing our newest Amateur, John Gray, VK2ZJG. At long last, John has his call. At one stage he thought he was going to be left out of it all, but the powers came good in the end. I have no idea what gear John will be using, but Z calls please take a look for him soon.

You will notice that Varley could not be there on the last meeting night, but he did come along to Bill's most recent social gathering and has almost recovered from his recent illness. Pleased to know you are feeling better Varley. You'll never guess whose car failed to start on the evening of 24th May at Bill's place. Well, perhaps Bill will tell you the details, but I can say that it was cracker night and that the member waited until all the other boys had gone and that the N.R.M.A. patrolman fixed it with a smile (or was it a laugh).

A few minutes before all this, we had been standing in the middle of the road admiring the new 2XT beam which answers to the name of Thunderbird. What with t.v. aerials and other appendages Bill certainly has some hardware above his roof! It works though as Gordon and Stuart will tell you, having talked to a KL7 on s.s.b. with effortless ease on that same evening. We are told that Mr. Hall inaugurated communication by breaking into a W QSO and having ten other Ws come back to him! How about that! He was late to bed that night.

Have you heard Charlie 2ARV on 7 Mc. c.w.? Harry says it is true and Jack, second op. at Ron's (2ASJ) has a card for him from an LA7 mobile marine. Keep up the good work Charlie! Ron, too, is still putting out an f.b. signal on 7 megs. and he has been on 20 as well. The c.w. contacts with California please Ron no end, so Jack says, and I'm sure we are all delighted to know the Stockton crew are progressing so well.

Our hard-working but transmitterless President, Stuart, is building a talking box. Whether this will be used for Monday night broadcasts is not clear, but it is going to be a modern affair with 15 watts and a transistor modulator on 40. It is rumoured to have some of those QQ stroke something or other in the final, so here's hoping. I don't know what remedy can be prescribed for the re-broadcasts at the present, but they just about reach this QTH and Zulu Zulu's talking back modulator just seems able to put enough intelligence on the carrier to be understood in Newcastle. Pity those poor Hams with 10 minus watts! Still, we can listen to some fine Chinese National music when 2AWX fades out. "There's not a chink in the band," said a local wag the other day. How about 7050 night-times?

The expectant associate, Gordon, must be sure of his exam. result and apparently intends going for the morse pretty soon because he is looking for certain crystals for a converter on the h.f. bands. Better speed it up Gordon, for when the sunspot number drops a bit further we'll be lucky to hear 2NA outside Beresfield.

Is it true that Bob from Westy has a barrage balloon ready for one end and a big hook on the top of Sugarloaf for the other end of an s.l.f. antenna? Won't it be grand on the s.l.f. band. We'll be getting QRM from dog whistles. At least this will fit in nicely with the duck decoys we'll need to receive the s.s.b. which Lionel hopes may soon emanate from D.D. Mk. II.

2ZIF has found that accumulators have a short life indeed on a 522 and the last report I heard was that he had now bought another car just to keep the batteries charged. You'd better get some clues on transistors Ian or else get one of those pedal machines. One CQ equals 493 pedal revolutions or thereabouts.

Chris, 2PZ is looking with longing at a certain mast at Adamstown and wondering if it will go along the lane and through his back gate. He is sure it would make an ideal companion for the present angle iron structure. John 2XQ has been heard on 80 mx phone so the spies tell me. I do hope that 80 keeps improving and that more of our local boys use this band.

VK2WI has been coming through more strongly each Sunday, and some of the boys listen to this transmission in preference to 7146. One 80 mx only man, Jack 2KQ, is heard now and then with a mighty strong signal. Jack also helps out with the slow morse at times. At least one local associate has told me how much he appreciates the work done by

the morse roster boys. You are doing a fine job chaps in providing an unparalleled service.

Heard Les 2RJ last Sunday calling in to 2WI from Brisbane with an f.b. portable signal. It is said that Les has a massive genemotor to run this gear. I suppose that's the one that was seen at Blackalls last year under the bonnet. Just as well Les does not have a Renault or it may be difficult to find which is the motor. On the way back from Brisbane, Les and Sylvia will be calling in on Tas 2GV in the furthest reaches of the Hunter Valley.

Amateur activity at 2AYL's is at a low ebb apparently as Stan is doing additions to the laundry and building the new sun porch. I expect really that the laundry is only a disguise for Stan's new shack while the other family members are kept happy sitting in the sun. Rodney 2CN has been heard but not seen and Bill 2ZK is still hard at it confusing young students. Please a little more activity from Kotara, Bill.

A lucky Terrace resident, Mac 2ZMO, recently spent a few days in the sister city of Wollongong. Mac has some crystals now as well so this may mean more activity on 2 from the distant suburb with the two Z calls. You should get a good signal from 2ZJG, Mac!

A deal of r.f. has been floating about over Teralba lately with Harry 2AFA having regular skeds with the hamburgers from Booragul. It is a real treat to hear Harry on regularly again, especially on 7 megs. The local library has a pretty picture book from the U.S.A. showing perverse t.v. screens. Harry has borrowed this book and reckons there's just no picture to describe what happens to t.v. at Teralba. Apparently the only way out of it is to be like the man next door who has a mighty mast. On winter days the top of it goes out of sight—just like the signal says Harry. A high pass filter was built but the folks have been unable to try it out because no picture could be found.

Bob 2AQK has been roaming around again and has paid visits to several of the near North Coast gang, namely Ben 2ABT, Les 2LM and Bill 2AEY, the termite man. I believe he was looking for a balance weight for his "S" meter needle so that it would get off the stop. Readability 3, strength 0 indeed! Ben must have caught some of the wander fever too, because he went off on a jaunt to VK5, apparently so he could hear Zulu Zulu's signal at a reasonable strength.

Bill is happy though or at least he gives one that impression because he is actually buying a new call book but it's going to take him weeks to transfer all his notes from the old one, so if you hear a large slab of silence from Phenyle Bay, you'll know the reason. Bill was glad to receive a visit from Lee 2AXK the other day and I bet he showed him the ZL R/C bridge. This is a mighty machine chaps. It is transistorised but the only transformer which will work in it is the same size as the one outside on the pole, and it won't quite fit in the box with the other components. Also out Toronto way the new beam at 2AHT has been lifted aloft. A large crew was employed to do the rigging, but it certainly seems to have been worthwhile and Jim's antenna farm just keeps growing. No wonder he works the DX! What a mighty signal.

The Booragul boys have at last begun regular transmissions from the school. The club tx is working well now, but only 100 per cent on c.w. The modulation is still not the best but this will be cleared up, I feel sure. If you have the time, the boys would appreciate a shout and you can expect to hear them on 40 phone at 1300 and 1530 each day except Thursday. The signal is low power but the antenna seems to be helping a great deal and reports received to date have been most encouraging. Ian hopes to contact a W on 7 c.w. shortly if conditions hold up. As an activity for Technical Training Week, four of the boys paid a visit to 2WI on 4th June. Dave and the boys at Dural were most helpful and the boys were very impressed with what they saw. They are determined to clean up our own operating position so that we may change over with one switch after seeing the system in operation at the Divisional station.

One of the amusing incidents of the visit took place when one of the lads took a flashlight photo in the studio with a blue flashbulb. As if by magic, engineers appeared from all directions to see which 866 had exploded. The boys are most thankful to those stations who have sent QSLs and promise to QSL all these chaps just as soon as the cards are printed.

If you are interested in wrecking disposals gear and lack the courage to pick up the side-cutters then bring yourself along to the July meeting of the Branch to be held on Friday week (that's the 14th) at the University of N.S.W., Tighes Hill. Vol 2VO has promised to give us the clues on this very subject and we are expecting a rapid turnover of junk in members' shacks following the meeting. So bring a notebook and pencil and I'll see you there. If you'd like to see some super sideband or watch a thunderbird in action, come to Bill's on the 26th. Anyone in Cook's Hill will tell you where he lives and you will be welcome. Come along and let me have some news for this column. And if you're interested in meeting a lucky associate, see Belmont Bob. He won a fiver in the local consultation recently (and I had half shares). And if none of these activities interests you, then use Amateur Radio to keep 40 and all the other bands busy. Let's convince the powers that we need it all. 73, 2AKX.

CENTRAL COAST SECTION

At the weekly hook-up on 3650 kc. at 8.30 p.m. on Monday night recently half of the stations were on sideband. The area now has five on this mode and five others are working towards this end. The latest convert is Major 2RU and his equipment is an HT37. These phasing type exciters have a very natural tone and the sideband suppression is excellent. Your scribe, 2ON, has had excellent results with the 102 ft. flat-top G5RV antenna described in Jan. "A.R." A 29 ft. length of 300 ohm ribbon is used for the matching section.

Congratulations to Reg. 2AI on his brand new daughter. Geoff 2AII has his quad working on 14 megs and the results with 50 watts of a.m. are really good. Turning the handle in the shack is the method used to direct its fire. Ken 2AFH and Frank 2AFJ from Peats Ridge are now directing their thoughts to 144 megs. At least they should escape t.v.i., living in the bush. Bob 2IN has a tx on 144 now and is frequently heard on 7 megs. Wally 2AXH is active on most bands these days. He showed some very nice coloured pictures of New Zealand at a recent Gosford Radio Club meeting.

Trevor 2TM rattles the key for the slow morse sessions on 3.5 megs. Unfortunately at the weekly net an interpreter is required. This will be remedied when Trevor rebuilds the modulator. Harry 2LX is enjoying a trip to Japan with members of Rotary. Ernie 2EH is holidaying at Los Angeles for a few months and we hope to hear him from there before long.

Len 2AMU has a keen second up and is undergoing a gradual re-orientation towards s.s.b. technique. What a pity orange trees take so much care and effort to make them grow! On this point, Alec 2AAG also agrees. Alec is very pleased with his tri-band beam but is puzzled why a DL station receives him at 5 x 9 and he has to report 4 x 6. Maybe they have excellent rx's over in Europe.

BLUE MOUNTAINS SECTION

Due to annual leave there were no notes from yours truly last month covering the Branch meeting in April. On this occasion, Bob 2ASZ gave a lecture on his mobile all-band tx from 3.5 to 28 Mc., and including 2 mx. Bob also added some very helpful hints and kinks regarding his 2 mx tx and outlined the general principles of a complete station. Eleven members were in attendance to deal with the little business to hand. Another Civil Defence Operation similar to Op. Picnic is coming off towards the end of the year, so chaps, how about 2 mx mobile?

The May meeting was very well attended, VKs 2ADF, 2QA, 2HL, 2ASZ, 2ZFB, 2ART, 2RM, 2NK, 2AVK, 2IJ, 2ZDK, 2ABK, Jack Ferris, Ken Moore (ex-3AVK) and Bill Smith. Messrs Wallas and Baker from the volunteer Bush Fire Brigade spoke to members regarding communications. They outlined the various areas and radio requirements. One problem arising is when more members turn up at the base and require redirection to other fronts of the fire. Another is notifying changes in fire directions and also general emergency calls. The usual ragchew and supper followed and a good night was had by all.

Heard Alec 2EX making up for lost time with Bill 2ZL on 40 the other day. The tx, according to Alec, appeared a bit cranky—was all right here. Al 2ZFB now transmits and receives on 2 and getting ready for mobile. Bob 2ASZ is looking for contacts on 580—so turn your beams to St. Mary's fellows.

The lecture for June meeting (as usual on the third Friday) will have been given by Harold 2AAH on Antennae by the time you read this. —73, 2ADA.

VK2ATQ—BOYS' RADIO CLUB

Back on the air after the holidays and we hope to be more organised this term. Contacts are usually short, through lack of time and Frank suggests dinner-hour be extended till two o'clock! John saves time by listening and transmitting simultaneously—until the OM gets within range.

Construction is almost completed now on a higher powered final (parallel 6146s) for c.w.; next project must be to improve the antennae somehow.

Nice to have a yarn with Booragul High School ops, 2AKX/P. Our strongest signal so far has been 2ALA/M who happened to be right in our street one afternoon. We've been listening for Harry 2LX, who is in Japan at time of writing, but no sign of him yet.

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VICTORIA

Not much this month. About the only things happening that I've heard about are the repairs to the building, which have somewhat limited our activities; the great work being done by the V.h.f. Group, especially Bill 3ARZ; the last monthly meeting which was a great success, over 50 people present to hear an excellent lecture; the brief visit of Arthur 3AUL and Bert 3BV to Melbourne; Alan 3AEL, our Federal Councillor, successfully losing his tonsils.

Is there someone who is on the bands regularly (even a country member could do this) who could, each time he works a band, make jottings over the month and send them in as VK3 Div. notes? I am unfortunately occupied three nights a week with work this year, and find it very difficult to be about to get news.

There have been a few kind people who wrote me with news, thanks! I am happy to write up the news if it's sent to me by the end of each month, but as a news hound, this year I'm a dismal failure.

Anyway I went to the monthly meeting last month and heard an excellent lecture on linear amplifiers, Class C, Class A, Class B, Class AB, etc., grounded grid operation (which seems to be the best) and many other interesting facts on s.s.b. operation. Lex 3AIL, who we thank very much, gave the lecture and all agreed it was very worth while. This month we hope to have the University balloon team to show us their gear, explain their research and generally entertain us on this aspect of research in which we recently took a part. Be in it! It was a good roll-up last month, hope it is this month.

New members admitted were Neil Duncan, a junior; John Beckett, 3ZCB; Geoff Thompson, 3AC; and Rex Dale, an associate. Welcome to these new members. Max Hull, the Federal President, was at the meeting and was cordially welcomed by the VK3 Division.

The foundations were found, and work started on the front wall as we went to press. The building will be finished by now.

Disposals Committee is running about gathering bits of gear for you—but it's hard to come by! Don't forget the forthcoming Convention and Dinner! Let's have some news. Hey, I almost forget (shame!) next month it is R.D. Contest time! Eight weeks from now—keep that week-end free to strike a blow for VK3!

EASTERN ZONE

During May, Graham 3QZ completed a trip through VK5, VK8, VK4, VK2 and kept regular skeds with 3DY, 3AIT and 3ZK. George 3ZCG now resides at Morwell, after a short stay in the big smoke; works 3ZDP and 3ZAB mobile on 2 mx. 80 mx hook-up is still in being, keep it up chaps. 2 mx hook-up is likewise. 3ZDP and 3DY persevering with QQE06/40s on 2 mx, but gradually achieving the desired results. 3AIT entertaining visitors and keeping them occupied with chores. Ron 3PR, a regular on the 80 mx morning hook-up, but t.v.i. keeps him off otherwise.—3DY.

WESTERN ZONE

Alan 3HL is most active on the DX bands these days. He is still using a.m. but is very interested in s.s.b. and expects that in the near future he will have this type of signal. You are not the only one thinking along these lines, Alan, as s.s.b. seems to be the "real thing" these days. Trev. 3ATR also one of the DX boys and works the world with ease. Merv. 3AFO is active on the lower frequencies as well as spots of DXing and is one of the regulars on our zone hook-ups.

Keith 3QG, of Murtoa, is now building gear for the 50 Mc. band. Keith's brother, Norm, is at present enjoying a spot of leave in Hopetown. Norm is a Missioner working in the Islands and will be sitting for his Broadcast Opertor's ticket in the near future. He is also very interested in Ham Radio and will also be doing Morse and Regulations, so we wish him all the best of luck. Expect to be contacting him from the Islands early in the New Year.—3AKW.

SOUTH WESTERN ZONE

The new co-ordinator for the Zone's W.I.C.E.N. is Pat 3ADN with Jim 3ADT and Don 3AKN as his deputies. These three form a committee to plan training and operation of

the net and to make liaison with outside bodies. The control station will be rotated amongst the net stations so as each one will get practice in control work.

Don 3AKN has had a QSO with Bill 3ZFG and Peter 3FX on 50 Mc., but is not satisfied with the r.f. feedback in the tx. Don't worry Don, it will come good in time. Brian 3XN is on 144 after getting bugs out of his converter. Here's a tip, chaps, check all bits and pieces if your receiver is giving trouble. Brian found the strife in faulty components in the converter.

John 3ARJ's 2 mx tx is going on 144.9; the converter is coming up soon. Noticed in last month's notes the mighty 2 mx sigs reported by 3AKN; at last I have convinced one chap about that band. I have been having trouble with t.v. lately, not t.v.i., just t.v. looking; will be back soon with t.v.i.-proofed new tx running a bit more watts I hope.—3ANQ.

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QUEENSLAND

Greetings chaps! I am looking forward to keeping this column of interest to everyone, but, of course, I will need your assistance. What about letting me have news of that interesting event? Send direct or pass through Secretary Bill 4WX.

I guess you won't mind me repeating the Council set-up for 1961-62: President, J. Rafter, 4PR; Secretary, W. Wishart, 4WX; Treasurer, K. Grice, 4DG; Federal Councillor, A. Hinkler, 4AO; Inward QSL, J. Files, 4JF; Outward QSL, R. Feenaghty, 4ZBZ; Librarian, K. Long, 4VM; Div. Sub-Editor, P. H. Brown, 4PJ; Disposals Officers: E. Fell, 4EF; R. Guttormsen, 4RL; C. Cogzell, 4SF; A. Walz, 4AW.

As you can see, some of the load has been taken off Jim . 4PR's shoulders. We held a Council meeting at 4PR's QTH on Friday, 12th, when nine councillors were present. We started promptly at eight and we only stopped for breath, not even for supper, a little after eleven when it was time to go home, and leave the washing-up to Jim. We can guess the secret of Jim's beaut. smile and well rounded figure if the bountiful supper his XYL provided is any clue. Thanks Mrs. 4PR. However, we left a lot of business unfinished, so if some things seem to move slowly, chaps, it's time that is beating us and we are not complacent about it.

We held our monthly meeting at the State Service Union Rooms on Friday, 26th, with over thirty present, including three new members, and a few that haven't been seen for a long time, including Bob 4RB who taught Bill 4WX Morse, who can I believe take his licence back to the 1920s and who will be back on the air again. Pat 4KB, who also was one of Bill 4WX's class instructors, was present, as also were our Ipswich stalwarts, without whom our meetings would be incomplete.

The business of the meeting was over and Vince 4VJ was on with his s.s.b. lecture by 8.45 p.m. The time flew, with questions, until just after ten and Vince had only dealt with the receiving end of s.s.b. The "how" and "why" of s.s.b. reception and ways to improve your present receiver were the main points covered. Vince's s.s.b. transmitter was there with covers off and knobs on for all to examine and admire.

Thanks Vince. We are looking forward to your next talk in July. I suspect the disappointed ones who missed this first talk will want it again one day.

By the time you read this the Queen's Birthday Convention at Nambour will have taken place and we will be looking for ways and means to further improve the next Convention.

Bill 4WX has the suggestion that we hold the next Convention in the North again, but at Easter, and so far the idea is being received favourably. It is not anticipated that the Urunga Convention attendance will be affected but that both shows can work together on "scrambles," etc.

FURTHER LECTURES

Now about our monthly meeting lectures and talks for the rest of the year. In July, Vince 4VJ will continue on s.s.b. transmission. Probable talks to follow will be "Radio Astronomy" by Pat 4KB; "Doc Morrison, 4MD, on his overseas trip; Mr. Hinkley, of the Queensland University, is lining up some talks suitable for our meetings and we have arranged for a practical demonstration, in which all may, and should, take part, of "Mouth to Mouth" resuscitation, using manikins. If you don't know what manikins are, I'll explain further next month. No, not mannequins!!

Council will arrange these events so that everyone has plenty of notice. If you know of an expert in a field that is related to radio or the Institute, tell a Council member that we may co-opt him, and don't be backward if you are capable yourself.

While we are on meetings, etc., don't forget that Secretary Bill is opening the rooms at 7 p.m., so that you may have a chin-wag if you have some spare time before the meeting.

PERSONALITIES

Our new Secretary, Bill Wishart, 4WX, who calls himself an "old timer" but has a pretty youthful approach to the job, held his present position many years ago. Other "old timers" would have known him as 4WT. Should the above bring back memories of the past, Bill would be pleased to receive a letter from any of the old gang. His address is 39th Ninth Avenue, St. Lucia, Brisbane (phone 7-2784).

Keith 4DG was heard working CR7GF on 15 mx and making sure his QTH was correctly received. You'll get your QSL card, Keith. Stan 4SA is back with us and we hope to see him at the July meeting. Doubtless we'll have a job to utilise his talents. Wide Bay and Burnett, also Central Division, will be pleased to hear of him as one who helped their formation. Even 4EF is to be congratulated on the efficient manner in which he is handling our disposals gear. Often the package is dispatched the day after receiving the letter ordering it. What do you think of the service, country members?

Ken 4VM, our Librarian, reports that the R.S.G.B. Bulletin should be on its way and we will let you know when it becomes available. We are missing a few 1959 "QSTs" and "CQs". What about looking around the shack chaps and returning those isuses and subsequent issues. Ken is going to award the crossed dipoles to Hal 4DD and Bob 4RW for promptness in returning library issues, but they are being run pretty close. Any more contenders for June and July?

Eric 4XR conducts the Wide Bay and Burnett Group's Saturday afternoon hook-up on 7125 Mc. at 1400 hrs. He conducts these hook-ups in an excellent manner and keeps to a tight schedule.

Most of the credit for the Convention will probably go to Eric, Barry, Jim and others of W.B. and B.

Have you heard "How I rode out the typhoon" or "Anchors Aweigh" by "Doc" 4MO? Who are the persons using the 21 Mc. Amateur band for private s.s.b. phone patches?

Unfortunately I won't be able to deal here with certain items as you must realise that I have to have this news in Melbourne before the 8th, but if you hear of anyone in hospital or in ill health let one of the councillors know and we will pass the word around.

Also, country members, don't forget if you are in Brisbane for the Show, contact Bill, myself or someone here because we would like to hear from you, or meet you.

Finally, I've probably used up my news for the rest of the year, so what about sending some along and helping me make this column a success. My phone number is 95-2268.—4PJ.

TOWNSVILLE

It is to be hoped that very soon 4WI's tx will have a new home, so that there will be no grumbling from the boys. The stations calling in will be able to net on the proper frequency, 14342. Because these tx's are xtal controlled and after warm up do not drift whereas the chaps calling in leave it to the last minute to switch on and therefore their v.f.o's. have not settled down. Hence they hear one chap, whose v.f.o. is thus slightly drifting and net him and soon all are spread around between 14338 and 14345 kc. This causes the s.s.b. chaps to moan as they have to continually re-tune. Bad luck to the two s.s.b. chaps who operate on 14342 all during the Sunday 4WI net. Hard enough with present conditions without others using the frequency.

Can anyone inform me re propagation of the radio signals where do they wander before arriving at my antenna, because on checking 15 mx I have noticed at times that WWVH is up to 30 seconds ahead of WWV with JJY in the middle. This has been noticed often around 5.45 p.m. E.A.S.T. Would like others to check this.

The boys in Townsville have a further breathing space as now the situation of the t.v. station will be Mount Stuart, about 2,000 ft. high and will take about 18 months before t.v.i. will make its appearance and naturally laid at the feet of local Amateurs.

The local boys want it known that they are running a net on 14 Mc. each night at 8 p.m. and ask for others to call in. With present conditions may make the others come on the air and not let the spiders build webs amongst the coils, etc.

Conditions are certainly bad for the Z boys as no break-throughs on 50 Mc. for over six weeks. Their rigs are lying dormant, may spur them on to get full tickets.

Last Sunday, after 14 Mc. had dropped out, it was possible to hear the boys from further north ragchewing on 7 Mc., but they soon faded and even at night this band was no good for southern VK4s seem to skip then and veer away to ZL.

With the passing of 4CU a local s.w.l. was thrilled to hear the Requiem on the 7 a.m. net on 7 Mc. on Monday, 15th May. Made a special call upon me to give me the details, and hopes one of these days to become an Amateur. Hear there will be a new scribe in the capital city, hope his pen never runs dry.—4RW.

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SOUTH AUSTRALIA

The usual good attendance of members, standing room only, was evident at the monthly general meeting of the VK5 Division for May, which, owing to the usual chairman (John 5JC) being absent on vacation, saw Phil 5NN acting in that capacity for the first time. The guest speaker was Mr. John Campbell, of the University Physics Department, and his subject was "Radio Astronomy". Mr. Campbell gave his talk with a rapid delivery and particularly clear diction, which meant that he covered a considerable amount of ground, and judging by the number and variety of questions from the members at the conclusion. of the talk, it was evident that those present had absorbed the subject particularly well, and were anxious to learn more. Most lecturers who have entertained at our meetings have been masters of their subject, and naturally have tended to gloss over the imperfections in favour of the perfections. However, Mr. Campbell, certainly a master of his subject, did not attempt to sidestep any imperfections and was the first to point out that the resolving power of aerials were vastly inferior to optical means as yet, but stressed the point that radio astronomy had justified itself if only from the point of being able to detect the presence of hydrogen in the heavens (important from our point of view), whereas this would not be possible from optical means.

For one awful moment I thought that he was going to leave me holding the bag and ignore the blackboard, which would have left me with no alternative but than to write up the whole lecture in this magazine, but occasionally he wielded the chalk, and with Council still firm in its declaration to refuse to post the blackboard over to the magazine committee, I was saved on the bell, and have only just recovered from the fright. I usually grab the lecturers for the night and make an impassioned plea for a little work on the blackboard, but I missed out at this meeting, and nearly paid the price for my mistake. The vote of thanks was ably proposed by that genius of the spoken word, Keith (5WI to you) and was seconded by all present in no uncertain manner.

Practically no business (F.E. or otherwise) was transacted, although the recently mentioned letter from Pete 5FM on fringe area t.v.i. came up, and it was officially stated that this matter was now at F.E. level, and for the moment there it will rest. The meeting closed around about 11 p.m. with the members leaving for their couches of virtue well satisfied with the fare provided, not their bus fare, the fare provided at the meeting.

Incidentally, talking about the fare provided at our meetings, there seems to be a growing wish among the members for a get-together night in the middle of the year, a sort of a night when there will be no business, no lecture, no nothing, but just a good chance to meet the other chap other than on the air and generally fraternise. Personally, I am not so sure how it would work out, but it is worth a trial, and I submit it to those responsible for what it is worth. The reason that I submit it here is because if I were to submit it to Council personally, they would knock it over at once, if only on suspicion of the motive! Give a dog a bad name, well you know the rest anyway. As a matter of fact, without labouring the point too much, it might not be a bad way of getting to know all the new members that have bobbed up over the months. One time we used to wear badges at the meeting as a means of achieving this, but for some reason or other this is now a thing of the past. Remind me to bring this up at some meeting some time!

Phil 5NN, at the moment of writing, is overseas on a trip to G and W land, business-wise, and there is no truth in the rumour that after one meeting night in the chair he decided to flee the country immediately.

Socialites were agog this week in VK5 by the announcement on the back page of the local

paper that none other than Joe 5JO had been hit fair and square in a vital spot by a deftly fired arrow from that little man who trots around with no clothes on and a quiver full of such arrows. The lucky member of the fair sex is Nellie Harrison, and the happy pair will walk up the aisle at the end of the year. Good luck to you Joe, what a fox!

My tried and trusty friend (sounds of hollow laughter and gritting of teeth, Comps 5EF, the sultan of s.s.b., grabbed with both hands the opportunity of boosting the members of the Duck Talk Society in VK5 in his April notes, and to such good effect that he left me without any actual grounds of complaint. However, having searchingly read the paragraph several hundred times in an endeavour to get some effective comeback to his boasting, I noticed with a feeling akin to horror that no mention was made of what could be called a veteran of s.s.b., none other than George 5GD. If my memory serves me right, George and another VK5, who shall remain nameless, were carrying out experiments in a solid way with this peculiar form of transmitting intelligence (that should increase my fan-mail from Interstate) back in 1957-58. George, being somewhat like myself, modest and retiring, something akin to a violet, would never have drawn Comps' attention to his exclusion from the list of the "Toffy Woffies", but naturally I could not let the opportunity of doing my good deed for the month go by! Joking aside, he is a little inclined to hide his light under the proverbial bushel, as witness of the fact, several VK5s have been receiving publicity in the local paper with respect to their experiments with Amateur TV, whereas George is well advanced in the same experiments, almost ready for some closed circuit testing, but like Brer Rabbit, is saying nuffin.

Doc 5MD, absent from the State without my permission as usual, is reported as having been sighted in VK4, and whilst this report is only rumour, knowing him as I do and his usual annual walkabouts, I quite believe it. Strangely enough, during his absence, a couple of his star boarders missed him so much that they left his boarding house without even giving notice, and tried to join him. It is his magnetic appeal I suppose.

Leith 5LG heard in QSO the other day describing his new invention for quick band hopping. Each band is marked in a different colour on all dials and at a snap of the fingers he can jump from indigo to chartreuse, I beg your pardon, from 7 to 14, whilst the average hopper is still working it out. All a little confusing to me, however, as he talks about conditions being extra good on red, or QRM being bad on blue, to say nothing of static being very annoying on heliotrope. I was a little perturbed to hear no reference as to how conditions were on fire hydrant red (Why not "Pansy Blue"—Ed.), because I always work on that band during the R.D. Contest. If he ever gets picked up for off-band working he can always plead colour colour blindness!

Things have been reasonably quiet up at Elizabeth this month, at least that's what my espionage agent reports, but as far as I am concerned it all sounds like feverish activity. Depends on one's outlook I expect, or could it be Anno Domini on my part? For the benefit of those who may not be able to speak the Hindustani language as fluently as myself, that means that possibly I could be letting the picture of the Man with the Scythe cloud my outlook, which means of course that I am perhaps getting a bit long in the tooth, which means of course—oh well, you get the point I think!

Bill Verral has obtained his limited ticket and great is the rejoicing thereof. His call sign is 5ZDV and he is not resting on his laurels but is keeping his c.w. practice going and hopes to get his full ticket this year. Nice work Bill, although Don 5TM may not second that, Bill's 6 mx four element points directly at Don, with only 100 yards between them. Don 5TM is still active on 6 mx but has been heard on the "square" bands at times, mainly on 80 mx.

Tubby 5NO has been fairly quiet of late, due no doubt to the fact that harmonic Jeff 5NQ is on university holidays. The latest communique from the Controller of 573 Main North Road (the XYL might possibly dispute that title!) is that during the next sunspot maxima Amateur activity will be at a minima, what with 5NQ going to bed at 0200, 5NO getting up at 0205, and the reverse an hour later, the Vale kitchen resembles an airport cafeteria.

Ian 5QX has been heard on 21 Mc. at various times, but was heard to remark recently that this band is too active at the moment for him so he will give it a rest. Well I never did! He recently was the recipient of the E.A.R.S. Award, can't think of the full title (possibly one of the wise men from the East might help out), but the main thing is that he has received it.

Harry 5EU has been heard working on 80 mx lately, with a signal that has to be heard to be believed, which all adds up to the fact that if he is being heard on 80, then 21 Mc. must be sick and ailing. Possibly Ian is getting a db. report above Harry! Keith 5EJ has not been heard lately, and the suspicious minded of the brethren in the Elizabeth area are waiting for "it" to happen. Just what is "it" I am not in a position to say, but as they somewhat coarsely put it, "something is cooking!"

John 5EV was seen the other day with his ears just protruding from his automobobble, and of course this means that his Amateur activities during the week-ends have been somewhat limited as a result. Ron 5FY, who, incidentally, claims Mata Hari as a member of his lineage (get it?), has his mobile set-up functioning well on 80 mx, much to Clive's 5PE relief. Ron has also been heard on 14 and 7 Mc. Versatile, isn't he? Cyril 5DY should soon have his mobile gear working, although he has been fairly busy with the new garage and its associated fittings, and there is a strong rumour that he will tack a possible shack on the end. Well, well!

Peter Field, L5039, has been absent from his QTH on holidays, but the QSLs still continue to arrive from here, there, and everywhere, with monotonous regularity. Pete 5HB has been conspicuous by his absence from the sylvan scenes of Elizabeth, pardon me becoming lyrical again, it's the metwurst in me, but the fist on 5WC at Woomera lately sounds mighty familiar. Can I read code? Can I read code, haw-haw-haw—Can I?

Joe 5JO, that roaming Romeo from Brompton, was a guest visitor at the last meeting of the Elizabeth Club and together with those present enjoyed the screening of the films projected by John 5ZJM. Ken 5ZCH has now left for Kimba, and it is possible that a 6 mx signal could go into orbit from that direction one day. Hugo 5ZDA is re-building his rig at present and naturally is not very active. He hopes to take his c.w. exam. shortly with a consequent increase of the local QRM. Best of luck OM.

Ron 5FY is going to receive—how did he get in here again, sheer favouritism—anyway, he is going to receive the first "BV" award issued by the Taiwan gang. Some are great, some are born to greatness, and some have greatness thrust upon them! Incidentally, visitors from the city and any other places are cordially invited to attend the monthly meeting of the Elizabeth boys. Further information available from Ron 5FY. Blime, he has got in again!!

I managed to sneak one of my spies over to the VK3 South Western Zone Convention at Warrnambool, at considerable expense and inconvenience, to the spy that is, and he returned to VK5 full of the splendid time had by all, the good-fellowship between all, and the good job for Amateur Radio that such Conventions do from all angles. Three VK5 visitors were among those present, Luke 5LL, Dave 5AW and Al 5ZCR, and Luke was presented with the award for the longest distance travelled to the Convention. My spy tells me that Tony 3WB caught the eye of all present with his mobile set-up, so much so that Heath Robinson has decided to sue for breach of patent, and he was the first away, with a squeal of tyres and a cloud of dust, on anything that resembled a "fox hunt," and was always the last back, having spent most of his time in tracking down the local b.c. station in mistake for the fox. Nobody enjoyed themselves more than he did, and if he had his way there would be conventions held every week-end. Attaboy, Tony! Don 3AKW lost his antenna loading coil on the road at one time and had everyone present hunting for it with feverish intenstiy, only to find that it was in the antenna all the time! I have plenty more information but I will have to stop because the VK3 zone correspondent will be after my blood for poaching on his preserves, and there are enough VK3s plus one or two VK2s persecuting me as it is! Incidentally, my espionage agent (I have to call him that now, as part of the Convention he was introduced to the Mayor of Warrnambool) was full of praise for the organisation behind it all and is eagerly looking forward for the next one. Fat hope he has, I will go myself!

Latest information as to the deeds or misdeeds (I will leave it to the umpire) of the unofficial Mayor of Lucindale, Arch 5XK, tells of the fact that he is the possessor of a new cat, kindly donated by Luke 5LL. It was a bit of a wait for a suitable cat because Arch insisted that it must be a black and white cat as a sign of his allegiance to the Port Adelaide football team. Football thy name is Arch!

Quite a spate of mobile stations on 7 Mc. over the past month in VK5, all from the East. Ian 2ASI was over on holidays and when heard was stationary mobile, whatever that is, from Gawler. Peter 3FX was on a round trip and whilst in VK5 had a little trouble with his gear, and was heard to say that it took him five hours to get it out for repairs and that it would probably take 10 hours to put it back. Looks like he needs a miner's licence as well! John 3HW when heard was just returning from a trip around Victor Harbour, Goolwa, etc., and was discussing the availability or otherwise of the fish at those resorts. I thought I detected a trace of disappointment in his voice, could I have been right John? Sorry I did not meet you boys, but I usually run like mad when I hear a VK3 or a VK2, I can never sort out who are friends or foes!

Ern 5EN was heard in QSO with 3LU and apparently it was their first contact for six years. Quite a while but not in the race with the lapse of time between the contact between Arthur 5HY and Charlie 5ON reported in these notes by my friend from Gawler (hollow laughter and sneers) during my absence recently. 47 years was it not? How did I miss that scoop.

Ralph 5TR heard for the first time for many moons and when heard was in contact with Al 5MF on c.w. too. I have to give Ralph a plug, he is the VK5 inspector for public places of entertainment, and as such could refuse to endorse my annual application for my projectionist's licence. He once said that nobody approached my ability as a projectionist, but thinking that remark over, I am not sure whether he meant up or down!

Pete 5FM is the recipient this month of our sincere wishes and congratulations on his marriage, and if the news around the broadcast stations can be believed, he is leaving Crystal Brook and will be living at Bridgewater. It is understood that he will be working at the ADS? tx. Ray 5FF heard on mobile several times, in fact he was definitely mobile on one occasion, 300 miles north of Port Augusta. Bill 5XB was heard on 7 Mc. with the news that he had completed his mobile tx and was well satisfied.

Nicknames are funny things, quite often they bear no relation to their owners. Take Pansy for instance, this one has been with me for years and has caused some lifting of eyebrows when I have been introduced! Take Doc 5MD, take Inky 5WF, take Pop 5LD. Heard him confess over the air recently that the reason he used that nickname was because it was easy to sign it on c.w., instance of Launce. Heard Rick 5GV telling Wally 5DF on 7 Mc. last Sunday that he was going to the zoo in the afternoon and was apprehensive as to whether he would be able to get out. Did Rick get out? Did Rick escape a fate worse than death? Read these interesting and entertaining Divisional notes next month and find out whether to take a bag of peanuts with you next time you visit him!

Had a short note from Alice Springs this week, from none other than Les 5UX, "Uncle Xray" to you, and he says that the bug has bitten again and that he is in the middle of a Geloso-6146, and it was all set off because he gave Bill 8EW a hand to operate his station at the second Alice Springs Show on 19th and 20th May. It was good public relations and was a huge success. He is sending a report on the show to "A.R.," giving all details. He also mentions that Graham 3QZ arrived at Alice recently, complete with an 80 mx portable (Type 3) and as it was his XYL's birthday the next day, the 5UX's and the 3QZ's had a small celebration at the 5UX QTH. Nice work, Les, good to hear from you again, and knew the bug would get you in the end. I never nominated in which end!

John ex-5QL will be arriving in VK5 from G land for permanent residence in our fair State, having left the R.A.F. and become a civilian. He will live at Elizabeth and will take up his old call sign and add to the QRM. There must be something about the air in VK5, once you breathe it you can't live without it!! Eastern States please copy. Oh, I say the cutest things.

They say in VK5 that they have to shoot me to stop me, so I will beat the gun and say 73. 5PS (Pansy to you).

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WESTERN AUSTRALIA

The last monthly meeting attracted quite a good attendance, and after some rather lengthy business, the members settled down to a most interesting lecture on "Mouth-to-Mouth Resuscitation," given by Mr. W. Williams, of the P.M.G. Technicians School. After a most interesting talk and a film showing the method, several members were noticed trying the procedure with the assistance of "Charlie" the mannequin.

With the lessening of activity on the higher bands, 80 mx and 40 mx have become quite

populated, many VK6s renewing QSOs with Eastern States and ZL. Conditions occasionally have been very peculiar, signals appearing and disappearing in very short times.

Some disturbance was caused on 80 mx one night by a signal which had speakers jumping out of enclosures and Amateurs rubbing their ears. After sundry antennae were switched out, it was found to be SM6BZQ/MM on the tanker "Hong Kong" somewhere in the Bight. He informed us he was using two 813s in the final modulated by a pair of 813s. Just as well there were no more of them about. Alan 6AB has acquired a secret weapon which he will probably use in self defence.

6XO is regularly heard on 80 as usual with Alan and some of his "gang". It appears that Katanning is a windy place to live in; what say Herb? VK6 Amateurs are appearing in out-of-the-way places. Almost DX in fact. A new call sign is 6DG in Port Hedland and of course Stan 6AH is still heard on Sunday morning from Wiluna, while Bill 6DX in Kalgoorlie, 6TK in Norseman and 6KJ in Albany are quite often heard on the lower bands. In fact we even hear that Jack 6BU is considering going underground to obtain a new angle of radiation. Better take that 4-watt job with you next time you go to the caves Jack.

Have not heard 6RX much on the lower bands lately, but you have no doubt been kept busy at night Bill. The doyen of VK6 Amateurs, 6AG, has been having a spell in hospital, probably in QSO with the nurses, but is back home again organising his new shack and looking very fit. At present Wally comes on the air with his 122 set. Skipper 6WS, the G.O.M. of VK6, is back on the air after some tx trouble and getting among the DX. We do not hear 6JM so often lately, but he puts in a good signal when he does appear, except when the power supply "bods" get mixed up with his aerial. Take care of that "marching girl" John.

Since t.v.i. has appeared in VK6 many of the fringe area chaps have had much trouble suppressing harmonics, perhaps 2ZL could give them a few hints. 6WL has not been heard so often from Bunbury although he has done more than most to t.v.i. proof his gear. We hope he overcomes it soon as he is missed on the bands. S.s.b. is the present topic of QSOs and some very good signals have been heard. I hope 6AB does not build his set too soon. When he does I will throw my rx away and open the window. Bob 6RG has been on s.s.b. lately with his super set and Ian 6CL is on his way with d.s.b. reduced carrier. Hope to hear you back soon Ian with your seeding, etc., finished

The slow morse transmissions are still carried on by a few stalwarts but more operators are needed to make it easier for all. 6PH is the organiser but unfortunately is away from home every second week. 6GH does a stirling job with the news and manages to give a very interesting technical talk each Sunday morning. When this new shack (fly proof?) of Wally 6AG is finished, we hope to also hear Wal giving the news from his new QTH.

The Geraldton Amateurs have not been heard very often lately, but that may be due to conditions, local signals being hard to hear at times when VK2, 3, 5, and 7 are on the air. Which reminds me, Roy 6RY has been concentrating on the Interstate mobile contacts; he works regularly into VK3 cars at about 5.30 in the evening, even one VK3 coming down the Mt. Lofty road in S.A.—90 watts s.s.b. mobile. Also 5NT on a No. 19 set with an 8 ft. whip driving into a drive-in theatre at Victor Harbour. 5FF and 2ABB are two other active mobileers Roy has worked.

At the time of writing, it is with regret that we note another silent key—6HT.

73 for this month, 6ZCK per 6LS.

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TASMANIA

At our May general meeting we were fortunate to have Paul 7ZAJ address us on transistor circuitry. He clearly demonstrated the transistor equivalent circuits for the better known valve circuits. Thank you, Paul, for such a down-to-earth lecture which could only be of help to us all. We will soon be welcoming Hugh 7DS as a metropolitan member. Hugh has been appointed to the staff of a very well known Government department with which Len 7LE has a working association. Merv. 7CL has made his presence felt on the air on several occasions just recently and it could be that more QRM will occur in the Hobart area as a result. It is good to hear you Merv. Ken 7KA has been mobile marine again during the first week-end in June. Ted 7FJ has completed the erection of his quad antenna and hopes that conditions will improve enough soon to give it a thorough trial. Tom 7AL has at last received permission from the Clarence Commission to erect a workshop, which will in due course allow Tom to come back on the air, so we can only hope that construction is effected quickly. Charles 7CH has had his annual holidays about the end of May.

Band conditions generally have been particularly poor during May and in fact the 80 mx band at night time has been the only band to provide contacts. Generally, 80 mx has been very good indeed, with plenty of DX to be had, including KW6DF and KW6DG, CX1RY, CO1TK, JA1YL, VE6SZ and many more.

Our official Sunday morning broadcasts continue to be QRMed. We can only come to the conclusion that this interference is deliberate, because of its regular continuance. If it is not deliberate, then we seek the co-operation of Amateurs generally to keep 7146 kc. clear of interference from 1000 to 1030 hours, and 7115 kc. clear from 1030 hours until the end of the Intrastate round up.

Doug 7DW tells me he is making slow but some progress on his six-band mobile rig which we hope will be in service next summer. While talking about mobile work, the Fund-Raising Committee encourages you all to build up direction finding gear for either the 3.5 or 144 megacycle bands or both in readiness for next and ensuing summer activity, and while you are about it, why not build up a mobile rig as well? You will certainly have fun operating mobile.

At the June meeting of the Division, we were treated to three films on radio astronomy, all of which proved most interesting. In one film, we were delighted that our member, Dr. Grote Rever, was given a very honourable mention as a pioneer and present leader in this field. We were all the more delighted as the Doctor was in the audience.

The VK7 Division is seeking an Assistant Secretary to under-study Ken 7KA, who has definitely decided to relinquish the secretaryship at the end of this present financial year. Please volunteer, as Ken is only too happy to show you the ropes while still in office.

Merv 7CL has been heard on the bands again, we hope this is the beginning of considerable activity from you, Merv. The R.D. trophy was again handed to our President, Tom 7AL, by Jack 7JB, the Acting Chairman of the Federal Contest Committee. While on the subject, remember that the other Divisions are really making a determined effort this year to take the trophy away from us. It is up to you to ensure that we retain the trophy, get your gear ready for the Contest next month.

Jack 7JB is presently engrossed in the construction of a two-channel stereo unit, with 10 watts per channel. 73, Ian 7ZZ.

NORTH WESTERN ZONE

Time has slipped by, finding yours truly scratching to find something to write about once more. Firstly let me thank Max 7MX for helping me out in so ably compiling notes for the last couple of issues whilst I was attending to some local duties. You set me a hard task Max.

Our last meeting was held at the usual place and no less than 20 people put in an appearance. A welcome was extended to Athol Elliott who has recently obtained his A.O.C.P. and also to Ted 7EJ who was back on the coast on business and turned up at the meeting to get his "attendance" marks—keen what!!

A nice letter was received from the Burnie Fire Brigade thanking the zone further for efforts put into their radio equipment.

It was announced that the meeting to be held on the 1st August would be the Annual Meeting and attendance of ALL members is requested. Put a circle round August 1 on your calendar.

The July meeting promises to be very interesting as Ken 7AI is going to lecture on the fundamentals of sideband reception and transmission; so don't forget that date, 4th July, you possible future sidebanders. The July meeting has also been earmarked as a night for a massive auction so let's hope some surplus gear is forthcoming.

Ken 7KH is now a regular inhabitant of 80 mx. I do believe he has access to a nice tape recorder of one at least of his emissions. Not often that you get back what you transmit Ken! Charlie 7CF has been having troubles with hot water circulation instead of r.f. for a change; I don't know whether link coupling would work there Charlie. S.w.l. Geoff Sharp is still receiving cards each meeting, so someone is listening chaps if we are not all on the air very regularly. I understand there is some activity in the zone with gear that might radiate signals on 2 mx, perhaps we'll break the inter-town barrier in that region of the spectrum before the year is out.

Did anyone come up with a satisfactory answer to Max's problem of the broken feeder? Perhaps link-coupling would work there Max.

Minimum 5/-, for thirty words. Extra words, 2d. each.

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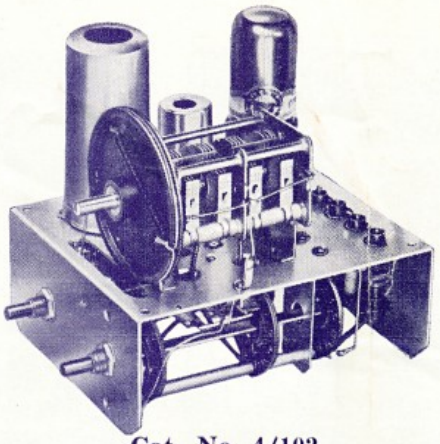

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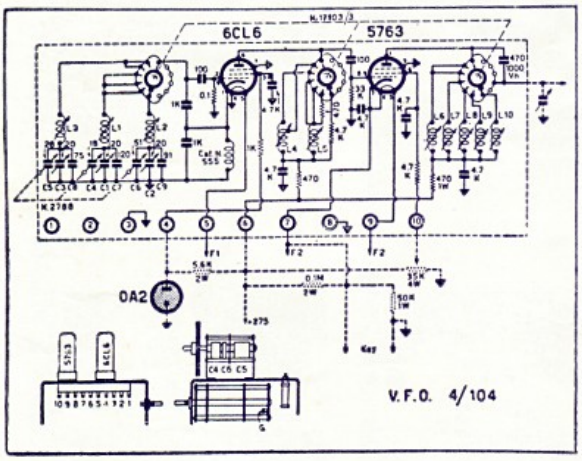

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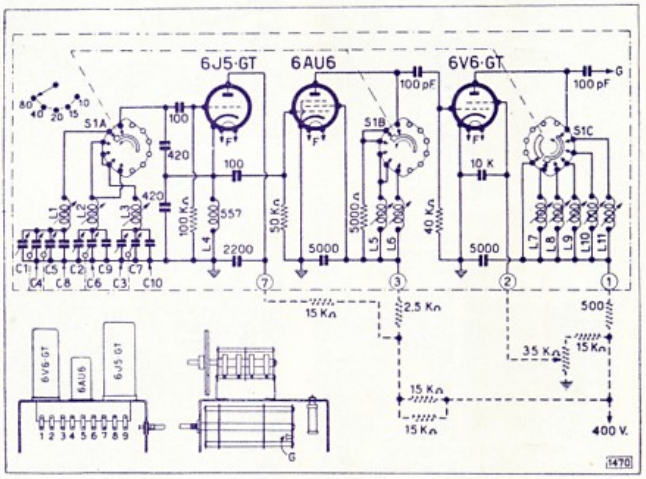

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